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ABSTRACT

This document was created as a resource for educators and policymakers regarding English Language Learners (ELLs) in U.S. public schools, providing a synthesis of the research on teaching and learning to read in English as it relates to students in U.S. public schools who speak little or no English. Focusing attention on children of primary acquisition age, this research summary addresses the following questions: (1) What are the prerequisites that children need to meet in order to become proficient readers in English as a Second Language? (2) If ELLs are experiencing difficulties reading English, is it a language problem or a reading problem? and (3) What are the school, program, and classroom characteristics that support the reading development of ELLs? This report contains three chapters and three appendices. Chapter 1 discusses the theories and different aspects of the language acquisition processes. Chapter 2 examines the primary challenges ELLs face in learning to read English and the skills they must develop to succeed. Chapter 3 summarizes the research on the effectiveness of various program models for the education of ELLs. (Contains 236 references.) (KFT)

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Research Report

Reading and Second Language Learners

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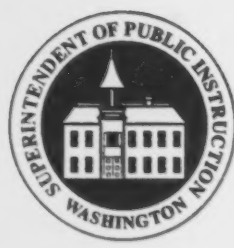
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May 1999

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April 1999

Reading and Second Language Learners

Research Report

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April 1999

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Introduction

Learning to read is a very complex developmental process that begins at birth. It is also a process that presents many challenges to young learners. For English-language learners (ELLs) who are learning to read in English, the process presents additional challenges because their linguistic and cultural backgrounds are different from the language and culture embedded in the reading process. The ability to read is necessary for social and economic advancement in our society; therefore, it is essential that ELLs in U.S. public schools successfully meet these challenges. Hence, it is imperative that educators and policymakers are informed as to what current research suggests are the best methods for helping these ELLs do so.

This document was created as a resource for educators and policymakers on this issue, providing a synthesis of the research on teaching and learning to read in English as it relates to students in U.S. public schools who speak little or no English.¹ Focusing attention on children of primary acquisition age,² this research summary addresses the following questions:

- What are the prerequisites that children need to meet in order to become proficient readers in English-as-a-second language?
- If ELLs are experiencing difficulties reading in English, is it a language problem or a reading problem?
- What are the school, program, and classroom characteristics that support the reading development of ELLs?

In answering the questions listed above, this document incorporates a substantial portion of the theory on early reading development presented in *Preventing Reading Difficulties in Young Children* (Snow, Burns, and Griffin, 1998), an extensive research summary produced by the National Research Council. This document also incorporates much of the information provided in *Educating Language Minority Students* (August and Hakuta, 1997), a synthesis of research on educational issues pertaining to linguistically diverse students. Also produced by the National Research Council, *Educating Language Minority Students* served as the foundation for this document's summaries of the research on second-language learning and the school, program, and classroom characteristics that support the reading development of ELLs.

¹ This document does not provide an extended investigation of the theory and research on reading development and pedagogy in general. Although such research and theory was used to inform much of this document, our attention was focused on those issues that are particularly salient to ELLs learning to read in English in U.S. public schools. For a detailed discussion of reading development and pedagogy more generally, see Office of Superintendent of Public Instruction (1998b) and other related publications.

² Primary acquisition age refers to the period between birth and the onset of puberty, during which many researchers and theorists consider children to be natural language acquirers. For a more detailed discussion of this subject, see Chapter One of this document.

This document contains three chapters and three appendices. In Chapter One the theories and different aspects of the language acquisition process are discussed. Classroom practitioners need to create optimal conditions for the second-language acquisition process to take place because proficiency in the English language is the fundamental prerequisite for learning how to read in English. Language is text and text is learning. The influence of a number of individual learner characteristics on the process of second-language acquisition is also discussed in this chapter.

In Chapter Two the primary challenges that ELLs face in learning to read in English and the skills and abilities that these students must develop in order to be successfully in initial English-reading instruction are discussed. Also discussed are the most effective ways for educators to support the process that ELLs must undergo in order to learn to read in English and to continue their schooling in academic subject areas.

The research on the relative effectiveness of various program models for the education of ELLs (e.g., early-exit bilingual education), is summarized in Chapter Three. An overview of those school- and classroom-level factors that have been shown to be effective in supporting the academic achievement of language minority students is also provided.

Appendix A contains a brief overview of the types of special programs Washington State operates to meet the needs of ELLs in the state's public schools. Appendix B provides a framework for the development of an effective educational program for ELLs in terms of the language used for instruction. Appendix C summarizes the published research on the degree to which widely used reading-related programs in Washington State's public schools are effective with ELLs.

Executive Summary

This document provides a synthesis of the research on teaching and learning to read in English as it relates to students in U.S. public schools who speak little or no English. Focusing attention on children of primary acquisition age,³ this research summary addresses the following questions:

- What are the prerequisites that children need to meet in order to become proficient readers in English-as-a-second language?
- If English-language learners (ELLs) are experiencing difficulties reading in English, is it a language problem or a reading problem?
- What are the school, program, and classroom characteristics that support the reading development of ELLs?

The following is a summary of the primary findings:

- For children, the acquisition of English-as-a-second language is a developmental process that is similar in many respects to the first-language acquisition process. As a developmental process, second-language acquisition cannot be rushed (although it can be facilitated through effective instructional techniques, the creation of supportive classroom environments, etc.). In fact, research has shown that even in those educational contexts most conducive to second-language acquisition, initially non-English speaking children require five to seven years to acquire a level of English proficiency that allows them to sustain academic achievement at a level equivalent to that of their native-English speaking peers.
- As with their first language, children learn a second language as a result of their need to communicate with others. Their emphasis, particularly during the early stages of the acquisition process, is on getting the meaning of messages across rather than on grammatical form.
- Because second-language acquisition is a developmental process, the linguistic "errors" made by individual ELLs are usually not random, but instead are indicative of the learner's present knowledge of English. These errors provide a picture of the child's growing language proficiency and should be used as insight into the instructional needs of the child.
- Children acquire language naturally and, in the long run, often obtain a higher level of proficiency in a second language than adults. Over the short run, adults learn second languages more quickly than young children. Common misconceptions about the ease with which children acquire second languages are harmful when they produce expectations that are impossible for children to meet. Educators should understand that learning a second language is a process that is just as difficult for a child as it is for an adult, if not more so.

³ Primary acquisition age refers to the period between birth and the onset of puberty during which many researchers and theorists consider children to be natural language acquirers. For a more detailed discussion of this subject, see Chapter One of this document.

- The ability of an ELL to participate in seemingly effortless communication with his or her peers on the playground or in other "context-embedded" situations is often wrongly perceived as an indication of readiness for English-only instruction in the regular classroom. In fact, the language skills needed by an ELL in such situations are simplistic in terms of their linguistic and cognitive characteristics and should not be considered sufficient for effective functioning within the specialized, "context-reduced" discourse of the mainstream classroom.
- The completion of the first-language acquisition process among ELLs (normally occurring around the age of puberty) is of vital importance. The failure to complete this process may result in cognitive difficulties for the child as well as difficulties in acquiring a second language.
- Children with strong first-language skills will acquire a second-language more quickly than children with less developed first-language skills. Many of the language skills learned in the first language will transfer to the second language.
- Linguistic development, cognitive development, and academic development are interdependent processes and must all be supported simultaneously if educators are to succeed in developing deep levels of English proficiency among ELLs. To do this, schools should provide ELLs with cognitively complex academic instruction through their first language for as long as possible, while providing cognitively complex instruction through the second language for part of the school day. In addition, educators should employ interactive discovery learning approaches to teaching the academic curriculum through both languages.
- ELLs face a number of challenges in learning to read in English. Among these challenges is limited English proficiency itself, due to the critical role English proficiency (especially vocabulary size) plays in reading comprehension. Similarly, ELLs initially lack the phonemic and phonological awareness, as well as an understanding of the alphabetic principle, requisite for learning to read in English. Another challenge involves the fact that the background knowledge that ELLs bring to the reading process is usually very different from the background knowledge presupposed in the English reading material they encounter in the classroom; such a mismatch can interfere with reading comprehension. Finally, ELLs often face sociopolitical challenges such as discontinuities between the culture of their school and that of their home in terms of educational values and expectations.
- Initial reading instruction should be conducted in an ELL's first language whenever possible. Many of the reading skills and strategies acquired in a student's first language can be transferred to English reading.
- Initial reading instruction in an ELL's first language is not detrimental to the child's acquisition of English. On the contrary, initial instruction in the second language can have negative short-term and long-term impact on student achievement.
- Formal reading instruction in English should be delayed until a reasonable level of oral proficiency in English is acquired by the student. During this period, the ELL must be supported in acquiring the requisite "reading readiness" for English, including a sufficiently developed English vocabulary (approximately several thousand words), phonological and phonemic awareness in relation to the English language, and initial awareness of the alphabetic principle. The complex process of providing such support should be carried out while incorporating the students'

background knowledge. Furthermore, this process should simulate the developmental process that native-English speakers experience while developing reading readiness at an earlier age. It is recommended that this process be implemented in an age-appropriate way through a challenging curriculum in nonthreatening, enriched classroom environments.

- Both before and after the introduction of formal reading instruction in English, ELLs should be immersed in language learning experiences that provide optimal conditions for building the English vocabulary necessary for the domain of school. These activities should be purposeful, meaningful, challenging, contextually rich, and age appropriate.
- Immigrant ELLs who arrive in the United States during their teenage years need extra support to meet high school requirements. It is particularly important that these students receive instructional support through their first language or through intensive sheltered English to do grade level work in that language.
- Testing should emphasize how much an ELL has learned and not how much the child does not know in comparison to a native-English speaker. The standards developed for state and school district performance assessments are based on the typical performance of native-English speakers on these assessments. But because ELLs' lack of English proficiency places them at a disadvantage when taking standardized tests conducted in English, many of these students initially achieve well below this level of typical native-English speaker performance on such assessments. Because of this, while the average native-English speaking student needs to make only ten months worth of academic progress in each ten-month school year to meet these standards, these ELLs must make substantially larger yearly gains to "catch up" with their native-English speaking peers. Given this fact, assessment data reflecting such gains should be viewed as positive, irrespective of whether or not the ELL has achieved the performance standards set for native-English speakers.
- Recent comprehensive studies of programs serving ELLs confirm a strong positive correlation (1) between the long-term academic achievement of ELLs and the degree of instructional support these students receive in their first language and (2) between the amount of formal school ELLs experience in their first-language and the rate at which they acquire English as a second language. In contrast, several earlier studies had reported little difference between various program models (i.e., early exit bilingual, ESL, structured immersion, etc.) in terms of ELL academic achievement and English acquisition outcomes. These studies lack validity due to both their short-term perspective and their limited focus on student achievement in the early grades.
- Programs that provide ELLs with long-term first-language instructional support (i.e., late-exit [developmental] bilingual education and two-way developmental bilingual education) have been shown to succeed in producing long-term ELL achievement in English reading and other academic areas that reaches parity with that of native-English speakers, while programs with little or no first-language support (e.g., structured immersion and early-exit [transitional] bilingual education) do not.
- Programs are not unitary but a complex series of components; programs that share the same nominal label can vary greatly, both in terms of these underlying components and in terms of student achievement outcomes. Therefore, a more sophisticated approach to finding effective methods of educating ELLs is to go beyond a debate

over broad programmatic categories to an effort to identify those school- and classroom-level factors that support the academic achievement of these students. Research suggests that the following school- and classroom-level factors are effective in supporting the academic achievement of language-minority students: positive classroom and schoolwide climates; the use of effective grouping strategies; instructional strategies that enhance understanding; the provision of cognitively complex, on-grade-level instruction; the provision of a balanced curriculum; the provision of ample opportunities for students to practice English; school efforts to build school-home collaboration; and effective staff development.

- Several popular reading programs are used to instruct ELLs. Many of these lack published research data to support their effectiveness with this student population. Both Success for All and Reading Recovery have published research relative to these students. While indicators are that both these programs have been used successfully, some findings remain contentious especially with regard to Reading Recovery.

Chapter One

Language Acquisition and the Language Learner

One of the fundamental prerequisites for reading is the knowledge of language. The purpose of this chapter is to establish an understanding of how both first and second languages develop. The focus is on children who are entering the public schools and whose primary task is learning how to read. If a child is a healthy native-English speaker, he or she comes to school with a reasonable oral proficiency in English (as defined by a command of grammar and a vocabulary of several thousand words). In contrast, a child whose first language is not English enters kindergarten with a set of reading readiness "tools" that do not serve the child well in the task of learning how to read in English. The child, therefore, needs to learn the English language at a high proficiency level so that he or she can engage in pursuit of learning to the fullest. Acquiring a language is a process that is determined by two principle components: the brain and the learning environment. Teachers of all children must create optimal conditions for learning for all; however, the process of creating an effective learning environment for non-English speakers is substantially more complicated and contains more variables.

Background information that is essential for educators responsible for creating appropriate language-rich environments for English-language learners (ELLs) who are learning how to read in English is provided in this chapter. Several fundamentals of the process of acquisition of the first language are discussed, and the issues of second-language acquisition and individual learner characteristics that deeply influence this process are addressed.

How Does First Language Develop?

Understandings about the language development process have benefited from the efforts of many researchers, some of whose work is considered classic in the field of applied linguistics. Among these researchers is Eric H. Lenneberg (1967), who presents a theory about the first language acquisition process that starts at birth:

In the mechanism of language we find a natural extension of very general principles of organization of behavior which are biologically adapted to a highly specific ethnological function. With maturation, the neonate begins to organize the perceptually available stimuli surrounding him and also to organize the movements of his muscles. Sensory data become grouped into as yet undifferentiated, global classes of group patterns, and these, subsequently, become differentiated into more specific patterns. Both the perceived patterns and the self-produced patterns become organized or grouped in functional categories, and hierarchies of categories. Members of a particular category are functionally equivalent because they either elicit an identical response or they serve one and

the same function within the overall structure of a particular behavior pattern. It is these general principles of differentiation and categorization that appear in specialized form in verbal behavior. They influence the organization of perceived material as well as the organization of the motor output ... Thus the characteristics of phrase-structure (as described by phrase-markers) appear as the natural outcome of an application of the differentiation principle to the acoustic patterns, called language (1967, p. 324-325).

Lenneberg believes that if children fail to acquire the first language by the time they are 12, due to some severe illness or congenital disability, they then rapidly lose this capacity to acquire the language behavior at all. This is the critical period when the language acquisition cycle is completed, in that children have acquired all of the structures of the language (which in English culminates in the mastery of the conditional tense and the passive voice).⁴ McLaughlin (1978) summarizes Lenneberg's critical period argument:

[N]atural language acquisition by mere exposure can take place only during the critical period, that is between the ages of 2 and puberty. The brain has not developed the capacities it needs for language acquisition earlier, and after puberty the brain has lost its cerebral plasticity because of the completion of the process of cerebral dominance, or the lateralization of the language function (p. 48).

This critical period, or time of plasticity, is frequently discussed in language acquisition studies when it pertains to speaking a second language like a native speaker. An adult can learn a second language, often through study, to a native proficiency, but after this critical time the learner will often speak with an accent.

Among others who argue that language learning is natural for children because they are biologically well prepared for it is Chomsky (1959). He proposed a theory of *Universal Grammar* according to which all children possess innately a language acquisition device, or the capacity to acquire language. This theory of Universal Grammar is based on the premise that there are general principles that are common to all languages and that a child has the capacity to acquire the entire vocabulary, the entire morphology, the entire syntax, and most of the phonology of a given language.

Chomsky's theory also supposes that children learn the language of their social environment out of their need to communicate and interact with others. This theory of a child's natural ability to acquire a language in a social context is elaborated on by Klein (1986). He states that the first language of a child is learned in and through social interaction and that this acquisition is:

⁴ It should be noted that, unlike the acquisition of grammatical structures, vocabulary size and knowledge continues to develop through the learner's entire life and is not considered "completed" as is the knowledge of the syntactic forms.

... a spontaneous learning, which is based on meaningful and purposeful communication with speakers of the target language.⁵ The learner is oriented not to the form but to the content and effect of his utterances, remaining unaware of the linguistic rules and structures used in the process (p. 43).

The first-language development occurs when there is *language input* in a social context. Klein supports the notion of language acquisition through social contact by stating:

What makes learning possible from the sounds that are received is the information received in parallel to the linguistic input: the learner must know who is speaking to whom, when and where, he must be able to watch the accompanying body language and he must note the reactions of the listener (p. 44).

Susan Ervin-Tripp (1973) states that a child's linguistic tasks are complex in discovering the sound units and the rules for combining the sounds, knowing which sounds can or cannot be combined in a language, and attaching sound to referents. "A child cannot acquire the linguistically important features of speech unless a significant portion of the sounds heard make reference to concrete objects, relations, and events to which the child already attends" (p. 67). The child vocalizes and experiments with sounds of the language, in what is known as the language of the crib. In doing so, he or she regularizes or generalizes about all forms before experimenting with any irregular forms. The child does this to find order in the communication.

How Does Second Language Develop?

Learning a second language is a very complex process. In spite of intensive research in second-language acquisition during the past 30 years, there are still numerous unanswered questions and calls for further research. A number of theories are supported by pertinent empirical data. The foundational theories and research regarding second-language development is discussed and the four most highly recognized models of second-language development are presented.

Foundational Theories

Initial studies in second-language acquisition come from the early 1970s. Many linguists examined the nature of linguistic input, or language learning environments, in order to determine how language learning takes place, as well as to determine the reasons for, and the nature of, the variation of the output (i.e., the learner's language). Others focused on comparisons of structures in the first language (L1) with developing structures in a second language (L2) in the speech of children. These studies were important because, in addition to the information they provided about linguistic input, they provided information about the child-parent or learner-teacher interaction. The basic question that is central to all the studies of child second-language acquisition of this period is: "What is

⁵ A target language is a language that a learner is trying to acquire or learn.

it in the child's head that governs or guides what he learns?" (Dulay and Burt, 1975, p. 23).

Creative Construction

Since researchers could not literally study what is inside the child's head, the studies concentrated on the children's production of language and the linguistic environment necessary for the process of L2 acquisition. Although much of the information provided by the research is beyond the scope of this paper, the findings yielded initial evidence about the similarity of the L1 and L2 acquisition processes (Brown, 1973; Cook, 1969; Ervin-Tripp, 1974; Ravem, 1974; Slobin, 1973). In addition, these studies provided evidence of what Dulay and Burt (1974) called *creative construction* when describing the process of children's acquisition of English as their second language.

Basing their work on Lenneberg's innate ability theory of children, Dulay and Burt concluded that it is during this process of creative construction that children actively and gradually:

Reconstruct rules for speech they hear, guided by universal innate mechanisms which cause them to formulate certain types of hypotheses about the language system being acquired until the mismatch between what they are exposed to and what they produce is resolved (1974, p. 37).

This process is called *creative* since nobody other than the learner uses the actual forms present in the learner's developing second language at any given time. McLaughlin (1978) furthered this discussion of the construction of linguistic rules that is believed to be creative. He asserted that this process is creative in that no speaker of the target language models the kind of sentences regularly produced by second-language learners.

In addition to the acquisition process being creative, it is the general consensus of researchers that the L2 acquisition process is also developmental. The language process develops as the child's brain matures. The process is related to physical maturation as well as to cognitive growth. Physical maturation is sequential, as is language acquisition. This conclusion is particularly important for classroom practitioners who are concerned with accuracy in the emergent speech production of L2 learners, as well as the speed of the process given the pressure of state standards and standardized test scores. It cannot be rushed or given time limits; the learner is preoccupied with getting meaning across and not grammatical accuracy.

Error Analysis

In the late 1970s, several researchers conducted comparative studies on first- and second-language acquisition with an emphasis on the L2 acquisition process. Researchers analyzed the speech of second-language learners and, based on their analyses, many concluded that there are similarities between the two processes. Among the first to speculate about a possible relation between first- and second-language acquisition were

Cook (1973), Corder (1967), and Selinker (1972). Corder stresses the importance of differentiating between "mistakes" that are the products of chance circumstances (e.g., memory lapses, physical states, and strong emotion) and "errors" which reveal the learner's underlying knowledge of the language to date, or the learner's transitional competence. He recommends a linguistic study of a second-language learner's errors as an indicator of the learner's testing of the only question that he or she needs to ask: "Are the systems of the new language the same or different from those of the language I know?" (p. 161).

Researchers concluded that the errors L2 learners make are similar to the errors of L1 learners. This is seen as an indication that the learners are building the system of L2 grammar rules gradually. Examples of the most common errors include:

- Omission of grammatical morphemes, such as "He hit car."
- Double marking a semantic feature, as in "She didn't went back."
- Regularizing rules (i.e., womans for women).
- Using archiforms as in "I see her yesterday" and "Her dance with my brother."
- Misordering, or reversal in word order, as in "They are all the time late" (Dulay, Burt, and Krashen, 1982).

The findings of error analysis research have important implications for teaching practices. As classroom practitioners analyze the errors that a child makes in language structures and vocabulary use the focus should be on the developmental process of language acquisition. The errors that a child produces provide a picture of the child's growing proficiency and should be used as insight into the instructional needs of the learner. Remember: This process cannot be rushed or given time limits; it needs rich linguistic input and a positive learning environment.

Interlanguage

The study of the characteristics of the learners' language output led researchers to point out the dynamic and ever changing nature of the learners' competence. Corder (1967) calls it "transitional competence," while Nemser (1971) refers to it as "approximate competence." These terms attempt to communicate the incomplete nature of the L2 acquisition process, as well as the learner's progression along an acquisition continuum (Seliger, 1988) from zero competence to near native competence in the target language.

Selinker (1972) proposes the notion of *interlanguage*, meaning the language that a learner uses in communication that is neither his or her native language (NL) nor the target language (TL), the language that the learner is attempting to acquire. It is actually a third system that is employed while the learner is progressing in the acquisition of the L2 toward native speaker competence in the target language. The learner attempts utterances to express ideas in a target language which are not identical to the utterances that would be produced by a native speaker expressing an identical idea. In developing this hypothesis, Selinker measured the output of individual learners' attempted productions against:

- Utterances in the learner's native language produced by the learner.
- Interlanguage utterances produced by the learner.
- Target language utterances produced by native speakers of that TL.

He concluded that this interlanguage, also called "learner-language" system (Sampson and Richards, 1973), is a separate linguistic system. The studies of these researchers reported that:

- Second-language speech rarely conforms to what one expects of native speakers of the target language.
- Interlanguage is not an exact translation of the learner's native language.
- Interlanguage differs from the target language in systematic ways.
- The forms of the utterances produced in the second language by a learner are not random.

The data from research (Selinker, 1972) support the assertion that these forms emerge when the second-language learner is attempting to express meaning in the second language. Selinker makes a special note to teachers, "This important criterion is that the L2 speaker is attempting to express meaning as opposed to practicing structured exercises in a classroom" (p. 29). The learner, therefore, needs to be exposed to a lot of natural discourse and have many opportunities to engage in meaningful conversation as opposed to rote-learning.

Selinker also addresses the concept of *fossilization*. This fossilization is "the linguistic items, rules, and subsystems which particular native language learners will tend to keep in their interlanguage relative to a particular TL, no matter what the age of the learner or amount of explanation and instruction he receives in the TL" (p. 31). Fossilization supposedly occurs in the interlanguage when the learner's acculturation into the society that speaks the target language ceases. Fossilization also occurs among learners who have "mastered" specific forms in the target language. In varied situations (often in moments of stress, fatigue, anger, or when not enough time is allowed for an answer to be monitored) these learners will *backslide*, or revert from the target-language norm to the fossilized language forms. This backsliding is not random, nor toward the speaker's NL, but toward the IL norm.

Selinker noted from his studies four primary aspects of this interlanguage system:

- The stability over time of certain errors and other surface forms in learner-language systems.
- The mutual intelligibility that appears to exist among speakers of the same interlanguage.
- The phenomenon of backsliding or the regular appearance in bilingual speech of fossilized forms that were thought to be eradicated.

- The systematicity of the IL at one particular point in time.⁶

Hakuta (1988) concludes that the process of second-language acquisition is a dynamic, fluid process in which the system of the learner is constantly shifting:

In a slow and gradual manner either toward the maintenance of an internal consistency within the structures which the learner possesses, or in the direction of an external consistency, where the learner attempts to fit the internal system into what is heard in the input (p. 331).

Linguistic Transfer

Researchers also dedicated a considerable amount of time to the study of linguistic transfer, or the transference of rules that the learner knows from his or her first language to the production of utterances in the second language. They concur that a considerable amount of transfer into L2 occurs, both with regard to the product and the learning process. When the prior knowledge has a negative impact on L2 utterances, the transfer is called *interference* or *negative transfer*. Examples include:

- The omission of grammatical morphemes such as verb endings, noun inflections, articles, and auxiliaries.
- Overgeneralization.
- The use of double markings (Dulay and Burt, 1975).

Dulay and Burt stress the important implications of these findings for the classroom. Since it is known that the shape of the learner's cognitive structure guides the L2 learning process and that children possess the ability to *creatively construct* a new language, the children need to be immersed in a language learning environment that stresses rich natural communication instead of memorization and rote learning. Emphasis should not be on the form of the L2 but on the child's ability to get the meaning across. A learner's errors should not be viewed as "mistakes" but as process on a continuum of acquisition. As has been noted, native speakers also experiment with forms, testing their own hypotheses about the constructs of the language. The interlanguage is the same form of experimentation for the second-language learner. This is one of the basic similarities between the L1 and L2 acquisition processes.

Implications for Educators

These foundational theories have several very important implications for the teachers of ELLs, especially in view of the current emphasis on federal and state standards, standardized test scores, and accountability. Firstly, the second-language acquisition process is developmental. The language that is produced by the learner develops in stages which, like physical development, cannot be rushed. Secondly, language learners' errors provide information about their developing proficiency in the TL and should not be

⁶ See Brown (1973), Dulay and Burt (1973), Milon (1974), Natalicio and Natalicio (1971), and Ravem (1968) for other studies in this area.

viewed and scored on a deficiency scale. Assessment data should be compared over time and if acceptable growth is occurring then this progress in student learning should be validated.

Thirdly, testing should emphasize how much an ELL has learned, and not how much the child does not know in comparison to a native-English speaker. Thomas and Collier (1997) note that the standards developed for state and school district performance assessments are based on the typical performance of native-English speakers on these assessments. But because ELLs' lack of English proficiency places them at a disadvantage when taking standardized tests conducted in English, many of these students initially achieve well below this level of typical native-English speaker performance on such assessments (Thomas and Collier, 1997).⁷ Because of this, while the average native-English speaking student needs to make only ten months worth of academic progress in each ten-month school year to meet these standards, these ELLs must make substantially larger yearly gains in order to "catch up" with their native-English speaking peers. Given this fact, assessment data reflecting such gains should be viewed as positive, irrespective of whether or not the ELL has achieved the performance standards set for native-English speakers.⁸

Theoretical Models of L2 Acquisition

This section examines four theoretical models of L2 acquisition: Krashen's model; Cummins' model; the Prism model; and the social, linguistic, and cognitive processes model. These models employ the foundational theories discussed above, as well as data from more current research. The models offer teachers a framework for effective classroom instruction.

Krashen's Model

Stephen Krashen proposed a theoretical model of second-language development that includes five hypotheses (Krashen and Terrell, 1983). The first hypothesis distinguishes between acquired language and learned language in the second-language learning process. He defines the *language acquisition process* as one that is subconscious and that occurs in a natural environment out of the learner's need to communicate, much as first-language acquisition. This process is "the unconscious construction of grammar rules by a language learner which takes place (under certain conditions) when the learner hears the language spoken in meaningful contexts and ... [is] able to understand the message conveyed by the language he hears" (p. 27). Krashen distinguishes the language acquisition process from the *language learning process* for a second language by stating, "Learning is characterized by conscious attention to structure, verbalization about rules followed, and in the classroom by particular exercises to internalize the matter under

⁷ ELLs start at half a standard deviation behind the native speakers of English (Thomas and Collier, 1997).

⁸ August and Hakuta (1998) also express concern with regard to standards-based assessments. They warn that ELLs may take more time to meet the predetermined district or state standards and that additional benchmarks may need to be developed to assess the progress that ELLs are making toward meeting these standards.

consideration" (p. 27). This learning involves the formal knowledge of a language, knowledge that is conscious and which can be supported through formal teaching.

His second hypothesis is that there is a *natural order* to the acquisition process. According to this hypothesis, though not all learners will acquire specific grammatical structures in exactly the same order, certain structures will nevertheless be acquired early and others late. In other words, the order of acquisition is developmental. This hypothesis proved true regardless of the first language of the children learning the second language and concurs with earlier studies by Dulay and Burt (1975).⁹

Krashen states in his third hypothesis that when a second language is acquired like a first language (i.e., in a stress-free, context-rich environment), a *silent period* occurs. During this period, the learner attends to the sounds of the language and attempts to make sense of the sounds, but typically doesn't produce any linguistic output. In other words, comprehension precedes production.

His fourth hypothesis, the *comprehensible input hypothesis*, states that we acquire (not learn) language that is slightly beyond the current level of acquired competence. He claims that listening comprehension and reading are the most important skills, especially in an educational situation, and that the receptive language skills must precede the productive skills of speaking and writing. The four basic elements of this hypothesis are:

- Input relates to acquisition rather than to learning.
- Acquisition comes by understanding language in context just slightly beyond the current level of competence.
- Spoken fluency is not taught directly, but gradually emerges.
- When caregivers talk to an acquirer so that the acquirer understands the message, input automatically contains "i+1" (language beyond the current level), the grammatical structures the acquirer is "ready" to acquire.

His fifth hypothesis, the *affective filter hypothesis*, concerns the influence on second-language achievement of affective variables such as certain types of motivation and good self-image. A lower filter, including a lower anxiety level, allows the learner to be more open to language input. Also having a good attitude about the language that is being learned will encourage learners to interact more with native speakers of the target language. In doing so, they will receive more natural language input and be more receptive to the more difficult aspects of the language. An expanded discussion of this hypothesis is provided in this chapter.

Cummins' Model

James Cummins developed a model introducing two distinct stages of language proficiency marked by a threshold in L2 acquisition. The first stage involves second-language proficiency in an interpersonal level of communication (termed basic

⁹ In a series of morpheme order studies, Dulay and Burt reported that the exact order was determined in which children and adults acquire 11 important English morphemes.

interpersonal communications, or BICS). During such communication, language is deeply embedded in context and the language learner is able to rely on nonlinguistic information such as gestures, intonation, and facial cues to facilitate understanding. The second stage involves the second-language proficiency needed for success in school (termed cognitive academic language proficiency, or CALP). Once the learner enters into the dimension of CALP, he or she needs to have mastered higher levels of vocabulary (very often technical in nature), more advanced listening skills, increased reliance on print, and decreased reliance on contextual clues (including nonverbal communication). The tasks the learner is faced with are progressively more cognitively, academically, and linguistically challenging. This transitional developmental "moment," when second-language learners acquire CALP, is the threshold in Cummins' model.

The distinction between these two types of L2 proficiency is of particular importance to educators. When ELLs gain the ability to participate in seemingly effortless communication with their peers, it is often believed that they are ready for mainstreaming. However, as Cummins' model indicates, these children are only displaying basic interpersonal communication skills. These language skills are simplistic in terms of their linguistic and cognitive characteristics, and should not be considered sufficient for effective functioning within the specialized discourse of the classroom.¹⁰

Pauline Gibbons (1991), an Australian researcher, distinguishes the same concepts as the difference between playground language (BICS) and classroom language (CALP):

This playground language includes the language that enables children to make friends, join in games and take part in a variety of day-to-day activities that develop and maintain social contacts. It usually occurs in face-to-face contact, and is thus highly dependent on the physical and visual context, and on gesture and body language. Fluency with this kind of language is an important part of language development, without it a child is isolated from the normal social life of the playground ... But playground language is very different from the language that teachers use in the classroom, and from the language that we expect children to learn to use. The language of the playground is not the language associated with learning in mathematics, or social studies, or science. The playground situation does not normally offer children the opportunity to use such language as: "If we increase the angle by 5 degrees, we could cut the circumference into equal parts." Nor does it normally require language associated with the high order thinking, such as hypothesizing, evaluating, inferring, generalizing, predicting, or classifying. Yet these are the language functions which are related to learning and development of cognition; they occur in all areas of the curriculum, and without them a child's potential in academic areas cannot be realized (p. 3).

An extension of Cummins' model can be seen in Table 1:1, where Chamot (1981) intertwines Cummins' *threshold hypothesis* with Krashen's *monitor hypothesis*

¹⁰ The ability of ELLs to acquire BICS in a relatively short period of time has routinely led to the misconception that these children can acquire the language skills necessary to participate in mainstream classes without additional support in one to two years.

(distinguishing acquisition from learning) and Bloom's taxonomy of cognitive development. Chamot combines six developmentally sequenced cognitive levels with six language proficiency levels. Each level of the table identifies the internal language skills, the external language skills with the linguistic process, the language proficiency dimension, and acquisition learning domain. For example, if a child is at the first level of acquisition of the BICS proficiency dimension, he or she is able to recall (the linguistic process) at the cognitive domain of knowledge. The child has the skills to discriminate and respond to sounds, words, and unanalyzed chunks of listening. The child identifies labels, letters, and phrases in reading. In the child's productive skills he or she can produce single words and formulas and can imitate models. The child has some penmanship and spelling skills and can write known elements from dictation. This model is useful for teachers because it provides explicit information about the student's knowledge as well as an invaluable framework for instruction. It is also consistent with the interlanguage theory of Selinker (1972). A threshold is clearly marked on Table 1:1, indicating the transition toward increasing cognitive demands between communicative interpersonal language and academic language.

The Prism Model: Language Acquisition Model for School

The conceptual model of second-language acquisition proposed by Wayne Thomas and Virginia Collier addresses the language acquisition process ELLs experience during their school years (Thomas and Collier, 1997). This model, which is graphically depicted in Figure 1:1, provides a multidimensional perspective on the English-language acquisition of these students. As can be seen, Thomas and Collier's prism model involves four interdependent components: sociocultural, linguistic, academic, and cognitive processes.

The linguistic dimension of this model involves all aspects of the language development process, including first- and second-language acquisition and learning, as well as both oral and written language development. The cognitive dimension represents the subconscious process of cognitive development that begins at birth. Thomas and Collier repeatedly stress that "language and cognitive development go hand in hand" (1997, p. 40). Particularly significant is the interrelation between cognitive development and first-language development. "Children who stop cognitive development in L1 before they have reached the final Piagetian stage of formal operations (somewhere around puberty), run the risk of suffering negative consequences ... [I]f students do not reach a certain threshold in their first language, they may experience cognitive difficulties in the second language" (1997, p. 41).

The sociocultural dimension of this model involves all of the social and cultural processes that occur in all contexts of a learner's life, including the home, school, community, and broader society. An example of the influence these processes have on second-language acquisition involves the effects that community social patterns of prejudice and discrimination toward individuals or groups can have on ELL affective factors (e.g., self-esteem, and attitudes toward the target language and those who speak it as a native language). By negatively influencing learner affective factors, such sociocultural processes can seriously hinder the second-language acquisition process.

Table 1:1

SECOND-LANGUAGE LEARNING MODEL¹¹

<i>Acquisition/ Learning Emphasis¹²</i>	<i>Language Proficiency Dimension¹³</i>	<i>Cognitive Domain Taxonomy¹⁴</i>	<i>Linguistic Process</i>	<i>Internal Language Skills</i>	<i>External Language Skills</i>
Acquisition	Basic Interpersonal Communication Skills (BICS)	1 Knowledge	Recalling	Discrimination of and response to sounds, words, and unanalyzed chunks in listening. Identification of labels, letters, phrases in reading.	Production of single words and formulas; imitation of models. Handwriting, spelling, writing of known elements from dictation.
		2 Comprehension	Recombining	Recognition of and response to new combinations of known words and phrases in listening and oral reading. Internal translation to and from first language.	Emergence of interlanguage/telegraphic speech; code-switching and first-language transfer. Writing from guidelines and recombination dictation.
		3 Application	Communicating	SOCIAL INTERACTION	
				Understanding meaning of what is listened to in informal situations. Emergence of silent reading for basic comprehension.	Communication of meaning, feelings, and intentions in social and highly contextualized situations. Emergence of expository and creative writing.
.....THRESHOLD.....					
Learning	Cognitive Academic Language Proficiency (CALP)	4 Analysis	Informing	Acquisition of factual information from listening and reading in decontextualized situations.	Application of factual information acquired to formal, academic speaking and writing activities.
		5 Synthesis	Generalizing	Use of information acquired through reading and listening to find relationships, make inferences, draw conclusions.	Explanation of relationships, inferences, and conclusions through formal speech and writing.
		6 Evaluation	Judging	Evaluation of accuracy, value, and applicability of ideas acquired through reading and listening.	Expression of judgments through speech and writing, use of rhetorical conventions.

¹¹ This table is based on the one provided by A. U. Chamot (1981). Reproduced by permission of the author.

¹² See Krashen (1978).

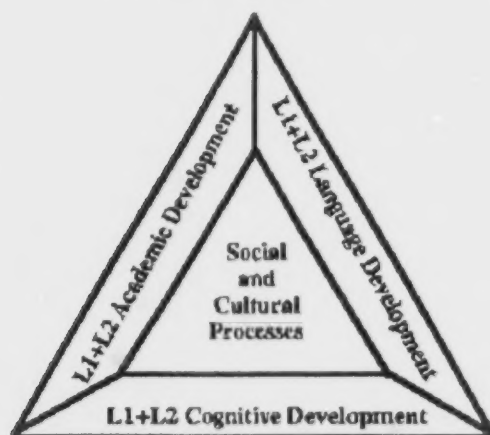
¹³ See Cummins (1980).

¹⁴ See Bloom and Krathwohl (1977).

Figure 1:1

LANGUAGE ACQUISITION FOR SCHOOL

L1 + L2 Academic Development
L1 + L2 Cognitive Development
L1 + L2 Language Development
Social and Cultural Processes



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The academic dimension of this model includes all schoolwork in language arts, mathematics, the sciences, and social studies for each grade level. Thomas and Collier note that "with each succeeding grade, academic work dramatically expands the vocabulary, sociolinguistic, and discourse dimensions of language to higher cognitive levels" (1997, p. 43). However, instruction that focuses on cognitively simple tasks (often termed "basic skills") does not support the language development process to the same degree as cognitively complex, on-grade-level instruction.

Thomas and Collier assert that because these processes are interdependent, they must all be supported simultaneously if educators are to succeed in developing deep levels of proficiency in academic English among ELLs. Specifically, these researchers conclude that:

- Schools should provide ELLs with cognitively complex academic instruction through their first language for as long as possible, while providing cognitively complex instruction through the second language for part of the school day.

- Educators should employ interactive, discovery-learning approaches to teaching the academic curriculum through both languages.
- Schools should create a sociocultural context of schooling in which ELLs are integrated with English speakers in a supportive, affirming context for all; bilingualism is considered an asset and a school's bilingual education program is perceived as the gifted and talented program for all students; and majority/minority relations in the school are transformed so that all students experience a positive, safe school environment (Thomas and Collier, 1998).

Social, Linguistic, and Cognitive Processes Model

Lilly Wong Fillmore (1985) approached the second-language acquisition process from a sociological perspective rather than from a linguistic one. Although her model is similar to those developed from the linguistic perspective, she focuses on a model of language learning in a social context; i.e., learners must figure out the system of rules of the target language and internalize it. They must discover how speech segments are used to represent meaning and how these units of meaning, are put together to relay complex ideas. To do this, learners use the cognitive tools at their disposal, such as associative skills, memory, inferential skills, and any other analytical skills they need to figure out the new language. The learners will search for ways to communicate their thoughts and feelings through the second language the same way they do so with the members of their first-language community. It is the willingness of learners to take a risk in the new language that expedites the acquisition process. The same social, linguistic, and cognitive components to the process of second-language acquisition are also reported by Chomsky for L1.

Learner Characteristics That Influence Second-Language Acquisition

Successful second-language learning is dependent on the complicated interaction of individual and group learner characteristics and motivations. It also depends on the individual strategies used by the language learner and the conditions in which the learning takes place. Second-language learning is a multifaceted issue with an already large body of research that continues to grow daily. The identification and study of learner characteristics that influence second-language learning is an essential part of this work. The following learner characteristics that influence second-language learning are investigated in this section: age, degree of first-language development, motivation, attitude, intelligence, aptitude, personality, and learning styles.

Age

Many researchers reflect the generally held assumption that children are more proficient at second-language acquisition than older individuals. However, August and Hakuta

(1997) note that this assumption is not substantiated by research.¹⁵ Though research shows that children are natural language acquirers prior to the onset of puberty,¹⁶ this does not mean that they are in all ways more skillful in second-language learning than adults are. In fact, research conducted by Collier (1987), Krashen (1982), Krashen, Long, and Scarcella (1979), Krashen and Terrell (1983), and Scarcella and Higa (1982) provides evidence that children are not superior to older individuals in all aspects of second-language acquisition.

The findings of these researchers suggest that children are superior to adults in L2 acquisition only in regard to the level of L2 proficiency they are ultimately able to attain. Students who begin to learn an L2 as children (i.e., before age 15) will attain higher levels of L2 proficiency than those who begin as adults. However, adults are faster than young children in attaining L2 proficiency over the short run. In the beginning stages of L2 development, adults make more progress in acquiring morphological, syntactic, and lexical aspects of the L2.¹⁷

One reason adults are at an advantage in the early stages of second-language acquisition is that their experiences (which increase their world knowledge base) have a positive impact on language comprehension. A second reason, according to Krashen (1982), is that adults generally receive more *comprehensible input* (the amount of new language, either written or heard, that the learner is exposed to and understands) than young children. Krashen argues that this is because adolescents and adults are more skillful in dictating both the quantity and quality of their input (by means such as asking for assistance, redirecting the topic, and guiding the conversation so it will be more understandable and more specific to their learning needs).

A third reason is that adults are able to largely bypass the initial silent period that is so obvious in young learners. Tabors and Snow (1994), in their study of the language development of preschool age L2 learners, note that when young children are in a social setting and are unable to speak the language of the group, they initially respond to this dilemma in one of two ways: they continue to speak their native language or they stop speaking.

Many children, when faced with a social situation in which their home language is not useful for communication, will abandon attempts to communicate in that language and enter a period when they do not talk at all. This period has been observed by a number of previous researchers who have termed it the "silent or mute period" (p. 107).

¹⁵ Bialystok and Hakuta (1994), Collier (1987), Epstein et al. (1996), Harley and Wang (1997), Krashen et al. (1982), Long (1990), and Snow (1987) (as cited by August and Hakuta, 1997) reviewed the research literature and find the claim that children are more proficient at second-language acquisition than older individuals is not supported very well.

¹⁶ Children are natural language acquirers prior to the onset of puberty. During this period children's language development is a subconscious and spontaneous process. They learn language actively and are motivated to communicate by the desire to bring meaning and purpose to social situations.

¹⁷ It needs to be stressed that individual learner differences do account for variations in acquisition timetables.

Older learners, according to Krashen (1982), are able to largely circumvent this silent period due to their ability to produce in the second language by using first-language rules. This allows the learner to more actively participate in conversation and receive a greater amount of specific comprehensible input, for very specific purposes, than that received by children.

The finding that young children do not attain second-language proficiency more quickly than adults has significant implications for educators. Educators should understand that learning a second language is a process that is just as difficult for a child as it is for an adult. In fact it may be more difficult for a child: "Young children do not have access to the memory techniques and other strategies that more experienced learners use in acquiring vocabulary and in learning grammatical rules" (McLaughlin, 1992, p. 3). Common assumptions regarding how children learn second languages are harmful when they produce expectations that are impossible for children to meet. Particularly damaging are the beliefs that children learn languages more easily than adults do and that the younger the child the quicker he or she will learn.

Degree of First-Language Development

One of the most valuable contributions that Thomas and Collier offer to educators is their data on the importance of strong language skills in the native language for the academic achievement of second-language learners. Their longitudinal study of program design effectiveness suggests that children with strong L1 skills will acquire an L2 more quickly than children with less developed L1 skills.

It is also known from research that continued development in the L1 facilitates faster and easier acquisition in the L2 and therefore continued native language development, and grammar development in particular, should be encouraged (Cummins, 1984; Hakuta, 1987; August and Hakuta, 1998).¹⁸ Researchers conclude "... second-language acquisition is faster and easier if continued development in the first language is supported through mastery of the basic grammar in the first language, around age 6" (August and Hakuta, 1997, p. 38).¹⁹

Age of Arrival

By focusing on the age of arrival into a formal educational program, Collier (1987) and Thomas and Collier (1997) expand on this discussion of age. They have conducted extensive research analyzing the length of time required for ELLs to become proficient in English for academic achievement. Attempting to answer the question of how much time is needed to assist students with no English-language proficiency in attaining an

¹⁸ Rossell and Baker (1996) and Porter (1990) disagree with these researchers.

¹⁹ August and Hakuta (1997) also observe that, although there is a critical period in learning a first language, this theory does not necessarily suggest that there is a critical period for second language learning.

academic achievement level on a par with their native-English speaking peers, these researchers separately examined every combination of age, English-language proficiency, and academic achievement. Based on this work, Thomas and Collier assert that a child's age of arrival into a formal school program in the U.S. is a crucial component to understanding the relationship between age of the learner and second-language learning when it is linked with the variable of how much first-language schooling a child has received.

In these studies, immigrant students who had received all subject area instruction in English after arriving in the U.S. were tested in reading, language arts, mathematics, science, and social studies. A 50th percentile test score was used as the criteria for national grade-level norms for academic achievement in all the subject areas tested.

Thomas and Collier found that children who arrived in the U.S. between the ages of 8 and 11 years old and who immediately entered a formal school program, needed five to seven years of school to reach the typical academic achievement levels of their native-English speaking peers. In contrast, immigrant children who entered a school program in the U.S. before the age of 8 required seven to ten years of school to reach grade level norms in academic achievement. Thomas and Collier (1997) assert that the only difference between these two groups was that children in the former group were schooled in their first language in their native country for at least two to five years, while those in the latter group had received little or no formal schooling in their first language. This finding provides significant evidence of the importance of strong first-language skills.

Thomas and Collier note that although ELLs who arrive before the age of 8 may make remarkable gains in Grades K-3 when they are instructed in all English programs, their progression rate drops as the work becomes more cognitively demanding. This is especially true of the complex work demanded of these students in middle and high school.

Thomas and Collier also found that 12- to 15-year old arrivals with a strong first language foundation made progress each school year but didn't have enough time in high school to acquire cognitive academic language proficiency (CALP) and arrive at grade level norms in academic achievement. With instruction only in the second language, students are unable to learn academic content until they understand English. Collier (1987) warns that the 12- to 15-year-olds must not lose the valuable time they need in academic instruction in content areas taught at grade level. It is imperative that students be taught either through the first language or through intensive courses taught in the second language until they are adequately proficient in English to be able to do grade level work in that language.

It is obvious from these findings that students needing the shortest length of time to achieve normal grade level test scores, in all subjects, were children who had received formal educational training in their first language in their native country (for two to five years) or children who had received first language instructional support in United States bilingual programs at least through ages 6-8. The conclusion is that the completion of the

language development process in the L1 facilitates second-language acquisition and thus accelerates academic achievement. This is consistent with the earlier statements that young learners with strong L1 skills will acquire their L2 more quickly than children with less developed L1 skills.

In summary:

- Eight- to 11-year-old arrivals, schooled in their L1 in their native countries for at least two to five years, need five to seven years of school to attain a level of academic achievement comparable to native-English speakers. This group required the shortest period of schooling to attain this level of academic achievement.
- Program arrivals before age 8 need seven to ten years of school to reach grade level norms in academic achievement when instructed in English-only programs.
- Twelve- to 15-year-olds, engaged in high school scholastic activities, may not have enough time in secondary school to acquire CALP and arrive at grade level norms in academic achievement. Academic instruction in content areas is needed in the L1 or intensive L2 instruction or other content-based instructional approaches until students are adequately proficient in English.

The Role of Formal Schooling in the First Language

The length of time of formal schooling in the first language is a very important predictor for the rate of the student's progress in the second language (Baker, 1993; Collier, 1987; Cummins, 1991, 1996; Díaz and Klinger, 1991; Freeman and Freeman, 1992; García, 1993, 1994; Genesee, 1987, 1994a; Hakuta, 1986; Lindholm, 1991; McLaughlin, 1992; Pérez and Torres-Guzmán, 1996; Snow, 1990; Thomas and Collier, 1997; Tinajero and Ada, 1993; Wong Fillmore and Valadez, 1986). As stated above, children who received at least two to five years of formal instruction in their native language attained in five to seven years the same or higher academic achievement than the native speakers of English. In addition, students were bilingual. This is the shortest period needed to reach the 50th percentile on standardized norm-referenced tests for any group of L2 learners.²⁰ Thomas and Collier (1997) clarify that native-English speakers in each ten-month academic year make ten months' progress in academic achievement. Consequently, the ELL needs to make a 15 NCE gain, instead of the 10 NCE gain needed by native speakers of English, to eventually be on grade level. Thomas and Collier warn that:

English language learners who have received all their schooling exclusively through L2 (i.e., English) might achieve six to eight months' gain each school year as they reach middle and high school years, relative to the ten-month gain of typical native-English speakers (Thomas and Collier, 1997, p. 35).²¹

²⁰ The 50th percentile or normal curve equivalent (NCE) on standardized norm-referenced tests is the criteria for normal academic achievement of native speakers of English.

²¹ Note the instruction is exclusively in English.

If students do not receive support in their first language or if they are not taught content through content-based English as a second language (ESL) or sheltered English, they might never meet the norm.

Collier also warns that it is not realistic to expect ELLs to make the same gains and to achieve the same academic levels as their native-English speaking peers sooner than in five to seven years. Students cannot be expected to go from the first percentile to the 50th in one to two years (see Figure 3:1 on page 61 of this document). Second-language learners need extra time and extra support.

As known from Thomas and Collier's (1997) research, only the students in one-way developmental and two-way developmental bilingual education programs continue to make progress toward high academic achievement. As can be seen in Figure 3:1, second language learners in two-way bilingual (developmental) programs surpass their native-English speaking peers and achieve higher on-grade-level performance in English in all academic subjects. Thomas and Collier (1997) consistently argue that it is the relationship between first and second languages that makes this possible because students will progress more quickly in the L2 when cognitive and academic developments have been nurtured in the L1.²² These provide a strong foundation of skills that are transferable into an L2.

Attitude and Motivation

Attitude is defined as an individual's reaction about or toward something based on their beliefs or opinions, while motivation refers to the degree an individual strives to do something because they desire to and because of the pleasure and fulfillment derived from the activity. According to many researchers, attitude and motivation play an important role in second-language learning. For instance, Gardner (1985) contends that attitude and motivation are important because second-language courses are fundamentally different from other courses for a student. In contrast to other courses, students undertaking second-language study are faced with material outside their cultural context. They are not just asked to learn *about* the language; they are required to *learn* the language and *make it part of their behavior*.

Gardner reviewed and evaluated classic research literature that utilized the Attitude/Motivation Test Battery, developed and tested in a number of regions across Canada. This research measured a number of attitudinal and motivational factors, including:

- Attitude toward the target population.
- Attitude toward learning the second language.
- Attitude toward the teacher and course.
- Anxiety in the language class.
- Parental encouragement.

²² For further discussion, see Thomas and Collier (1997) and Collier (1987).

- Desire to learn the target language.
- Motivational intensity.
- *Integrative*²³ and *instrumental*²⁴ orientations.

From this research, Gardner concluded that a favorable set of attitudes and motivation can predict successful second-language learning.

Gardner states that some major findings from this research, using versions of the above-mentioned test battery, include:

- Attitude toward the other culture and attitude toward learning the second language are both correlated with second-language proficiency but the greater predictor of success is the attitude toward learning the language.
- Attitudes and motivation will determine the extent to which students will actively involve themselves in learning the language.
- Orientations (different reasons for learning a second language) may be related to success in the second language because they reflect the differences in motivation.²⁵

In their classic study on attitude and motivation, Gardner and Lambert (1972) also concluded that attitude and motivation are factors that influence the development of second-language proficiency. Successful language learners "must be psychologically prepared to adopt various aspects of behavior which characterize members of another linguistic-cultural group" (Gardner and Lambert, 1972, p. 3). Similarly, Scarcella (1990) claims:

Motivation plays a central role in second language development. When language minority students find that the traditions of native mainstream Americans are congruent with their own lifestyles, they are likely to be successful. Conversely, when they find that the lifestyles of middle-Americans are incongruent with their own, they usually acquire the second language slowly and may stop learning before they gain native speaker proficiency in English (Scarcella, p. 57).

Identity and Second-Language Learning

Motivation to learn a second language is significantly tied to a student's attitude toward the second-language speakers (Cummins, 1979a). Drawing from the work of Lambert (1967) and Wong Fillmore (1978), Cummins (1979a) theorizes:

²³ Integrative orientation refers to reasons for learning the second language, reflecting an interest in forming a closer liaison with the target language community.

²⁴ Instrumental orientation refers to reasons for learning the second language, emphasizing pragmatic reasons, and appearing to distance learner from social-emotional contact with the other community.

²⁵ Some studies have shown that integratively orientated individuals are more highly motivated than instrumentally orientated ones (Gardner and Lambert, 1959). However, Gardner (1985) asserts that it is possible for instrumentally orientated individuals to demonstrate high levels of motivation.

Where there is a strong desire to identify with members of the L2 group, the children will be highly motivated to learn L2. Conversely, motivation to learn L2 is likely to be low when the learning of L2 is regarded as a threat to the children's identity (p. 243).

There are four ways that language-minority children can establish personal identity in relation to their participation in two cultures. These are:

- Identifying harmoniously with both the first- and second-language cultures.
- Identifying with the second-language culture and rejecting the first-language culture.
- Identifying with the first-language culture and rejecting the second-language culture.
- Failure to identify with either the first- or second-language culture (Lambert, 1967, as cited in Cummins, 1979a).

There is an intimate link between these patterns of identification and the learning of the first and second language. A child is most likely to reach high levels of competency in both languages when a close identification with both cultures is established. This competency level will be higher than that of the child who does not identify with either culture. It is also true that a child may foster the replacement of the first language by the second language if the child identifies only with the second-language group and the child who rejects the second-language culture will not be open to learning the second language.

Three unique motivational styles utilizing the above means of cultural participation, in regard to second-language learning, are proposed by Ventriglia (1982). She terms these:

- **Crystallizing:** *Crystallizers* maintain their identity with the first-language culture. They are cautious learners who display a passive attitude toward second-language learning. Crystallizers initially reject the second language and do not interact socially with English speakers or identify with them. These learners are listeners, and long periods of silence are not unusual for them. They will verbalize only when they have perfected their comprehension.
- **Crossing Over:** *Crossovers* identify with the second culture. They are flexible and independent learners who are willing to take chances. These learners view second-language identification as a positive way to adapt to the school setting. Crossovers are eager to practice newly acquired skills both in and out of the classroom. They may temporarily move closer to English-speaking peers and to embracing a new identity.
- **Crisscrossing:** *Crisscrossers* identify with both the first and second cultures. They are spontaneous, adaptable, and creative learners. Crisscrossers have a positive attitude toward both languages and are comfortable navigating back and forth between the two. They embrace a bicultural identity.

Children with all three motivational styles will eventually learn the second language but these styles identify which attitudinal factors facilitate a quicker progression of language acquisition.

Affective Filter Hypothesis

Krashen (1982), in a summary of second-language acquisition theory, offers a hypothesis of the affective filter and its relationship to motivation. First proposed by Dulay and Burt (1977), the affective filter regulates how much input is received by a language processing mechanism. Three factors that determine success in second-language acquisition are highlighted in Krashen's review of the literature: high motivation, self-confidence and a good self-image, and low anxiety.

Krashen and Terrell (1983), in agreement with Dulay and Burt's (1977) suggestion that a lower affective filter is experienced by students with optimal attitudes, further explain that having the correct attitudes will encourage students to obtain more input, to interact confidently with speakers of the second language, and to be open to the input they receive. Given two second-language learners receiving exactly the same input, the student with a lower filter will acquire more language. This implies that creating a classroom environment that fosters a low affective filter is critical to second-language learning.²⁶ Suggestions would include (1) modeling correct utterances rather than correcting a student's linguistic errors and (2) building on the prior knowledge of the learner rather than suggesting that there is something wrong with the native language and culture that the student brings to the classroom.

Intelligence

Attempts by researchers to identify the characteristics of successful L2 learners have routinely focused on ascertaining what relationship exists, if any, between intelligence and L2 learning. Many leading studies in this area have suggested that general intelligence is an important predictor of a person's success in learning an L2 (Carroll, 1986; Gardner, 1983; Oller, 1981; as cited by August and Hakuta, 1998). However, because these studies have primarily focused on students learning English as a foreign language, the applicability of their findings to ELLs who are learning English as a second language in U.S. public schools is questionable. This is because the experience of a student who is a native speaker of a society's majority language who is learning a foreign language through a standard foreign language class is fundamentally different from the experience of an ELL who is surrounded by an L2 for much of the day.

It is in fact generally believed among researchers that there is a low correlation between intelligence and the ability to acquire a second language by a healthy normal child. However, quantitative research that directly addresses this hypothesis was not found. The only research that may be applicable to the subject involves several studies that have addressed the relation of intelligence to L2 learning among immigrant students, and nonimmigrant students in immersion programs.²⁷ These studies are arguably more

²⁶ It should be noted that the majority of studies regarding the role of attitude and motivation in language learning have been conducted in foreign language classrooms.

²⁷ An immersion program is one in which students are exposed to instruction in an L2 for a substantial portion of the day.

applicable than those cited above because they focused on students whose experiences are more closely related to the experiences of ELLs in U.S. public schools. Their findings suggest that low intelligence does not obstruct the L2 learning of these students to the degree it would for mainstream students learning foreign languages in conventional classroom settings (Bruck, 1982, 1984; Genesee, 1992, as cited by August and Hakuta, 1998).

Even if research on this topic were available, the validity of such research would be questionable given the myriad of problems related to the use of IQ tests on language-minority students. August and Hakuta (1997) and Cummins (1984) warn against the use of IQ tests (or other psychological measures) as indicators of the academic potential of minority students, rather than as measures of their current ability level in English academic tasks. It is perceived as culturally biased to apply assessment and placement procedures created for middle-class English speaking students to students from diverse cultural and linguistic backgrounds. August and Hakuta (1997) maintain that "assessing the intelligence of second-language learners is a risky process. Whenever possible, such assessments should be conducted in the native language—though if the assessment is closely tied to school tasks, the child may display better performance in the school language" (August and Hakuta, 1997, pp. 38–39).

It is also well documented that early studies (before the 1960s) of the academic achievement of language-minority children found that bilingual children did not perform well on the verbal parts of intelligence tests and on academic tasks. But more recent studies (after the early 1960s) dispute this and report that bilingualism can have a positive affect on cognitive and linguistic abilities. Almost all the earlier research tested students in the process of replacing their L1 with the dominant language (Cummins, 1979b).

Academic difficulties are more likely attributed to school policies that foster language replacement rather than to bilingualism. In the more recent studies students shared an important commonality, "... they were developing what has been termed an additive form of bilingualism (Lambert, 1975); in other words, they were adding a second language to their repertory of skills at no cost to the development of their first language" (Cummins, 1996, p. 105).

In summary the following issues must be considered in evaluating the validity of intelligence tests for minority students:

- There may be a disparity in the testers' knowledge about the limitations of IQ and other psychological tests.
- There may be a disparity in the testers' knowledge about the development of academic skills in second-language learners.
- It must be established as to when a second-language learner is sufficiently proficient in English in order to perform adequately on the cognitive/academic measures of intelligence tests.
- The cultural learning experiences of minority children are different from those of the majority children. The opportunity to learn test content is not as great. The resulting

implication is that the use of an IQ test to measure previous learning is invalid because there is no adequate sample of the minority children's learning experiences.²⁸

These issues must be addressed to ensure the implementation of appropriate procedures for assessing minority students' abilities and potential (Cummins, 1984).

Second-Language Aptitude

It is often stated that an individual has a special "aptitude" for second-language study. There seems to be a great deal of empirical support for this idea. Gardner submits that "research literature supports the generalization that there is an 'aptitude for languages' and that it includes abilities such as phonetic coding, grammatical sensitivity, memory, verbal intelligence, and an auditory ability" (Gardner, 1985, p. 37). But he concedes that much of this research from which these abilities were derived and categorized was initiated in the 1960s and before. New techniques and concepts in the area of verbal learning may have vital implications for the definition of significant abilities in current second-language learning.

Krashen and Terrell (1983) point out that a second-language classroom that is acquisition-oriented should minimize the individual differences in aptitude. Both high and low aptitude students should successfully acquire communication skills if the classroom provides a learning atmosphere that includes a low anxiety setting, encourages self-confidence in the acquirer, and stresses an integrative²⁹ orientation toward native-language speakers (Krashen, 1982). But Krashen also recognizes that aptitude differences play a role if the emphasis is on grammatical accuracy rather than communicative skills.

Personality

August and Hakuta (1997) comment on the amount of studies that have tried to identify factors predicting individual predisposition toward second-language acquisition. A great deal of this work, however, has focused on learning a foreign language rather than learning a language in the society where it is used. Although August and Hakuta predict that researchers will continue to find this a topic of interest, they conclude that future research would most likely not be productive "given the inordinate difficulty of validly measuring personality constructs cross-culturally ..." (p. 39).

Gardner (1985) also concludes that although more research may be warranted, studies have been inconclusive and findings often inconsistent. He notes that many teachers see associations between successful second-language acquisition and personality attributes, but that in some instances some of the traits associated with both successful and unsuccessful students are the same.

²⁸ Clarizio (1982) opposes this view.

²⁹ An integrative orientation is one that reflects an interest in forming a closer liaison with target language community.

Learning Styles

Research suggests that *learning styles* are an important factor in second-language acquisition (Chamot, 1981; Scarcella, 1990). The term learning style refers to the "cognitive and interactional patterns which affect the ways in which students perceive, remember, and think" (Scarcella, 1990, p. 114). Scarcella (1990), in a review of learning styles, enumerates four prominent learning style typologies:

- **Sensory modality strength:** This typology categorizes learners according to the type of sensory input they utilize most for information. Learners are categorized as *visual*, meaning they remember best by seeing or reading; *auditory*, meaning they remember best by hearing; or *tactile-kinesthetic*, meaning they remember best by writing or using their hands in a manipulative way.
- **Global/analytic:** This typology categorizes learners as *global* or *analytic*. Global learners initially require an overall picture when learning a task. In contrast, analytic learners are fact oriented and proceed with learning a task in a step-by-step manner.
- **Field sensitivity/field independence:** This typology categorizes learners as *field-sensitive* or *field-independent*, depending on how their perceptions are affected by the surrounding environment. Field-sensitive learners enjoy working with others to achieve a common goal and most often look to the teacher for guidance and demonstration. Field-independent learners enjoy working independently, like to compete, and ask for teacher assistance only in relation to the current task.
- **Cooperation/individualism:** This typology categorizes learners as *cooperative* or *individualistic*. Cooperative learners excel in community projects and in group activities designed to encourage collaboration among students. Individualistic learners do best in more competitive and teacher-centered settings.³⁰

Another typology of learning styles, which more specifically focuses on second-language learning, is proposed by Ventriglia (1982). According to Ventriglia, "How children think, their cognitive style, frames how they begin to learn language" (p. 131). She identifies three second-language learning styles:

- **Beading:** *Beaders* learn words incrementally and embrace a gradual process of language learning. Beaders will not produce language until they understand the individual meaning of words. Initially it is easier for beaders to learn nouns before verbs. Complete comprehension of a word is attained before it becomes part of a beader's vocabulary.
- **Braiding:** In contrast to beaders, *braiders* easily produce sentences in the early stages of language learning. Rather than needing to comprehend the meaning of individual words, oral production (which is learned through interaction with native speakers) takes on greater importance. Unlike beaders, who are reluctant to attempt oral communication unless they understand all the words included in a phrase, braiders are eager to try out their recently acquired language skills.

³⁰ These learning style typologies are not considered mutually exclusive.

- **Orchestrating:** *Orchestrators* initially process language on a phonological basis and place greatest importance on listening comprehension. Their language learning styles depend on oral models. Context is less important than the tone of speech. These students begin with sounds and then gradually make connections between these sounds and the formation of syllables, words, phrases, and sentences.

As noted above, Scarcella (1990) argues that learning styles are an important factor in second-language acquisition. When attention is given to the learning styles of students and incorporated into curriculum decisions, students' ease in learning and their retention of material increases. In contrast, an incompatibility between a student's learning style and those accommodated by an instructor's teaching methods may foster student learning difficulties (Carbo, Dunn, and Dunn, 1986, as cited in Scarcella, 1990). By utilizing classroom teaching techniques that build on individual styles, teachers can facilitate the second-language learning process for children (Chamot, 1981).

It is important to note however that although educators should acknowledge and utilize individual students' preferred styles of learning, students should also be exposed to multiple instructional approaches that are effective with the full range of learning styles. The primary reason for this is that by receiving instruction that accommodates other individuals' learning styles, students "become more comfortable with learning styles they have not previously experienced, which means, encouraging learning style flexibility" (Scarcella, 1990, p. 114).

Conclusion

The first part of this chapter provided an overview of research on first- and second-language acquisition processes and similarities between them. Based on the work of many researchers, the following conclusions were made:

- Language acquisition is natural for healthy children because they are biologically predisposed to this process.
- Language acquisition is developmental, spontaneous, and purposeful.
- Language is learned as a result of our need to communicate with others.
- For language development to occur we need language input.
- Language is a tool to organize the learner's knowledge of the world (cognition).

The second-language acquisition process is similar to the first-language acquisition process to a large degree. It is a creative process because the learners use linguistic forms that are not found in the language that they are trying to learn. The emphasis of the acquisition process, particularly during the early stages, is on getting the meaning across rather than on grammatical form. "A natural communication, comprehensible input, and emphasis on message over form are seen as vital ingredients in successful language acquisition" (Weinstein, 1984, p. 474). "As the brain develops an increasingly complex and decontextualized understanding of the world is gained by the child" (Snow et al., p. 43). This in turn is reflected in the increased complexity of the structures that are

acquired and used by the learner. For a child, language is not an object of awareness in itself but "it is a glass, through which the child looks at the surrounding world" (Downing, 1979, p. 29, as cited in Snow et al., p. 45).

The theoretical models of second-language acquisition provide teachers with insights about the "scope and sequence" of L2 learning, stress the importance of the interaction between four components that "drive" language acquisition for use in academic environments (Thomas and Collier, 1997), as well as provide information about the social context of L2 learning (Wong Fillmore, 1985). The last part of this chapter provided an overview of individual characteristics of learners that have profound impact on the outcome of the second-language learning process. Individual differences need to be considered by teachers in order to ensure the appropriate methodology and approach for second-language learners.

Chapter Two

English-Language Learners and Learning to Read

Reading is the process of constructing meaning through the dynamic interaction among the reader's existing knowledge, the information suggested by the written language, and the context of the reading situation (Office of Superintendent of Public Instruction [OSPI], 1998b). "Reading is an act of creation ... The meaning ... emerges anew in each encounter of a reader with the text" (Devine, 1988, p. 260). In each reading situation the reader needs to possess two kinds of knowledge: (1) the knowledge of the language, which Eskey (1986) calls the "formal knowledge," and (2) the "knowledge of the substance," or the content information (Eskey, 1986, p. 17). Reading is also a very complex process that presents many challenges to young learners learning to read in their native language and even more challenges to young English-language learners. The most salient challenges ELLs in U.S. public schools face in learning to read in English, the skills these students need to be successful in initial English-reading instruction, and how and when such instruction should begin are discussed in this chapter.

Section One: Challenges English-Language Learners Face in Learning to Read in English

Program accountability requirements set specific standards for all learners in Washington State's public school system. All students need to demonstrate that they are meeting district or state performance standards. The scores of the state's English-as-a-second language (ESL) and bilingual students on the 4th grade reading test (Washington Assessment of Student Learning [WASL]) administered in 1997 were of concern to teachers and policymakers because a large percentage of these students did not meet the performance standards. The test results of these students prompted educators to investigate and consider the challenges that these students face so that appropriate measures and interventions can be introduced into the teaching and learning process.

Language Proficiency

Current research in the area of reading in a second language is quite conclusive in relation to the degree that second-language proficiency correlates with reading ability. It is therefore important to define the construct of language proficiency. Lee and Schallert (1997) state that:

Theoretically, the construct of language proficiency is not a simple one as it relates to language competence, metalinguistic awareness,³¹ and the ability to speak, listen, read, and write the language in contextually appropriate ways. In

³¹ Metalinguistic awareness is the conscious linguistic knowledge of the rules and forms of the language.

referring to aspects of what is meant by language proficiency, researchers in the field have used many related terms. For example, Hymes (1972) distinguished linguistic competence or knowledge of the rules and systems of a language, from communicative competence, or knowledge of the social rules of language use. Canale and Swain (1980) and Canale (1983), for their part, identified four sub-categories of communicative competence: linguistic (grammatical), discourse, sociolinguistic, and strategic competence (p. 716).

In the majority of studies dealing with issues of reading, researchers look at oral language proficiency, traditionally measured by the number of words in a child's vocabulary and the knowledge of grammar. Klein (1986) suggests that there are two aspects of oral proficiency, the active command, or proficiency in production, and the passive command, with proficiency in comprehension. Oral proficiency is also regulated by age-appropriate communication, in that a 5-year-old child has a differing proficiency than a 30-year-old in a native language. A child is by no means a master of the language when he or she arrives at school, and language continues to develop in terms of complexity and lexicon into adulthood.

The critical interaction between the L2 oral proficiency and reading has always been closely connected to a particular method of second language teaching. The belief in the primacy of spoken language resulted in a common practice that would actually ban reading instruction in the L2 until the student mastered the oral language. This "ban" included any exposure to the written language. This approach was typical of the very popular audiolingual method that started in the forties with the work of Bloomfield (1942) and continued until the late seventies and even into the early eighties. Yorio (1971) advanced the debate in the area of reading in an L2 by claiming that difficulties that second language readers experience are due to their limited knowledge of the new language. In addition, "Interference from the native language compounds the problem of imperfect command of the second language, making the task of the second language competence even more complex" (Yorio, 1971, p. 108, as cited in Devine, 1988). Subsequent research in this area provided additional evidence that led the researchers to conclude that L2 reading problems are due to language problems.

Many researchers believe that the actual process of reading is identical regardless of language. The proponents of this belief maintain that first language reading strategies will automatically transfer into the L2 reading process. This position has been gradually subjected to some criticism, and a renewed interest in the critical role of language proficiency emerged in the 1980s.³² Currently, there seems to be a general agreement among researchers that language proficiency plays a critical role in reading comprehension. Eskey and Grabe (1988) claim, "Reading requires a relatively high degree of grammatical control over structures that appear in whatever readings are given to L2 students" (p. 226).

In summary, all relevant current research concentrates on investigating the reasons proficient first-language (L1) readers often experience difficulties reading in a second

³² For more details, see Alderson (1984).

language (L2). Researchers have observed that students reading in a foreign language often do not understand the meaning of what is read. These students also read at a slower rate, and experience a great deal of difficulty during the reading process (Alderson, 1984). Researchers posed the following question: Are difficulties with reading in an L2 due to a language problem (i.e., low oral language proficiency in the second language) or a reading problem (i.e., poor reading skills and strategies)?³³ Researchers examined a combination of possibilities around the following hypotheses:

- H1. Poor reading in the L2 is due to poor reading ability in the L1.
- H2. Poor reading in the L2 is due to lack of proficiency in the L2.
- H3. Poor reading in the L2 is due to incorrect reading strategies in the L2.
- H4. Poor reading in the L2 is due to not employing the L1 reading strategies in L2 reading, due to lack of proficiency in the L2.

The preponderance of the evidence in most studies points toward a lack of proficiency in an L2 as being the primary reason for L2 reading difficulties (i.e., H2), at least at relatively low levels of L2 competence (Alderson, 1984; Cziko, 1978; Kamhi-Stein, 1998; Lee and Schallert, 1997).³⁴ In the case of advanced L1 readers, poor reading in an L2 is due to a lack of L2 proficiency which causes them to transfer and use only basic reading strategies when reading in the L2 (i.e., H4) (Carrell, 1991; Clarke, 1978; Kamhi-Stein, 1998; Lee and Schallert, 1997). These conclusions are consistent with Cummins' "threshold hypothesis," a hypothesis based on his research of the reading behaviors of English-French bilingual students in Canada (Cummins, 1979b). According to Cummins, individuals will not be able to read well in an L2 until they reach a threshold level of language proficiency (also referred to as a *linguistic ceiling*) that is sufficient to access meaning from print.³⁵ Hence, attaining this threshold level (i.e., a reasonable oral language proficiency) is the deciding factor in success or failure in L2 reading.

Phonological and Phonemic Awareness

The challenges facing ELLs when learning to read in English include not only learning the English language, but also becoming aware of the phonemic³⁶ and phonological³⁷

³³ It should be noted that the majority of research in this area has been conducted in reference to adult students learning foreign languages.

³⁴ There is evidence that when reading in an L2, good L1 readers have an advantage over poor L1 readers of the same L2 proficiency level. This suggests that poor L1 readers will probably be poor L2 readers.

³⁵ According to Lee and Schallert (1997), the threshold level is likely to vary from task to task and from reader to reader. It is important that educators note this conclusion when engaging in selecting reading materials for second language learners.

³⁶ *Phonemic awareness* is "the insight that every spoken word can be conceived as a sequence of phonemes. Because phonemes are the units of sound that are represented by the letters of an alphabet, an awareness of phonemes is key to understanding the logic of the alphabetic principle and thus to the learnability of phonics and spelling" (Snow et al., 1998, p. 52).

³⁷ *Phonological awareness* is "a more inclusive term than phonemic awareness and refers to the general ability to attend to the sounds of language as distinct from its meaning. Phonemic awareness generally develops through other less subtle levels of phonological awareness. Noticing similarities between words in their sounds, enjoying rhymes, counting syllables, and so forth are indications of such 'metaphonological' skill" (Snow et al., 1998, p. 52).

principles of this new language. Usually, this process begins at birth and is inherent to the first-language development cycle. It is believed that a child's perception of speech progresses from holistic (focusing on shapes of syllables and words) to segmental during the preschool years (Jusczyk, Friederici, Wessels, Svenkerud, and Jusczyk, 1993; Studdert-Kennedy, 1986, etc.; as cited in Snow et al., 1998). This is deemed important for reading an alphabetic language, such as English, where letters correspond roughly to phonemes (Walley, 1993; as cited in Snow et al., 1998).

ELLs enter school having developed phonological awareness for their native language, not English. This becomes a challenge when they apply the principles of their native-language awareness during their attempts to read in English. Since some ability to segment spoken language into phonemic units is a prerequisite to beginning to read (August and Hakuta, 1997), ELLs experience difficulties.³⁸

These difficulties are exacerbated by the relative complexity of the English writing system. During the 1996-97 school year, 76 percent of the children in ESL/bilingual programs in the State of Washington were speakers of syllabic languages such as Russian (7.5 percent), Ukrainian (3.3 percent), and Spanish (65 percent) (OSPI, 1998b). In syllabic languages, unlike English, the basic principle is that syllables are spelled as they sound and that each syllable is always spelled in the same way, hence they always sound the same way. In these languages, syllables are formed as a combination of a consonant and a vowel or as consonant-vowel-consonant. For example, in Spanish:

la me/sa
el ni/ño
la pa/red

In contrast, written English relies on an alphabetic system that represents the parts that make up a spoken syllable, rather than representing the syllable as a unit (Snow et al., 1998). Such a system:

Poses a challenge to the beginning reader, because the units represented graphically by letters of the alphabet are referentially meaningless and phonologically abstract. For example, there are three sounds represented by three letters in the word "but," but each sound alone does not refer to anything, and only the middle sound can really be pronounced in isolation (Snow et al., 1998, p. 22).

The English system of writing is made even more complex by the fact that words are often spelled in a manner that reflects the morphological relationship between certain words, but makes the sound-symbol relationships more difficult to understand (Snow et al., 1998). For example, "the last letter pronounced 'k' in the written word 'electric' represents quite different sounds in the words 'electricity' and 'electrician'" (Snow et al., 1998, p. 23). Furthermore, English retains "many historical spellings, despite changes in

³⁸ For a detailed analysis of how native speakers of Spanish learn how to read in Spanish, see Ferreiro and Teberosky (1982).

pronunciation that render the spellings opaque. [For instance] the 'gh' in 'night' and 'neighborhood' represents a consonant that has long since disappeared from spoken English" (Snow et al., 1998, p. 23). Therefore, "English can present a challenge for a learner who expects to find each letter always linked to just one sound" (Snow et al., 1998, p. 23).³⁹

Vocabulary

Another difficulty faced by ELLs is limited English vocabulary. August and Hakuta (1997) conclude that English vocabulary is the primary determinant of English reading comprehension. Similarly, Snow et al. (1998) note that "there is a well-documented link between vocabulary size and early reading ability" (p. 47).

Significantly, Snow et al. argue that one possible reason for this link between vocabulary size and early reading ability may be that when formal reading instruction begins, a limited vocabulary may impede a child's achieving a level of phonemic awareness for spoken words necessary for fluent decoding of written words. According to this theory, early reading ability is contingent on vocabulary size rather than age or general developmental level. This suggests that it is unrealistic to expect ELLs to perform on a par with their native-English speaking peers within a short period of time, since ELLs will often need to increase drastically their English vocabularies in order to do so. It also suggests that a prerequisite to formal reading instruction for ELLs is an immersion in language learning experiences that effectively build the English vocabularies of these students.

One study that emphasizes the need for such vocabulary building is by White, Graves, and Slater (1990). White and his colleagues conducted comparison studies of vocabulary growth among three groups of children from first through fourth grade. The groups were each composed of students from one of three schools: a white suburban school; an inner-city, predominantly African-American school where students spoke an English dialect; and a semi-rural school with dialect speaking, economically disadvantaged Asian Pacific students. The vocabulary size of first graders in these three groups ranged from 5,000 words for the white students, to 3,500 for the urban students, to 2,500 for the Asian Pacific students. In spite of intensive vocabulary and decoding instruction, the "vocabulary gap" never closed (although the students in all three groups increased their vocabulary sizes considerably). White et al. (1990) maintain that this vocabulary gap reflects a differing knowledge of word meaning that is engendered by the different experiences of majority and minority children. According to White et al., "Both at home and in school, the dialect speaking students ... were likely to have heard and used different words than the standard-English-speaking students from [the white suburban school]" (p. 288).⁴⁰ This implies that, because vocabulary size is so critical to reading ability, it is crucial that dialect speakers and ethnic minority students (including ELLs) are helped to close this gap by being immersed in language learning experiences that

³⁹ For further details on this issue, see Snow et al. (1998).

⁴⁰ For further discussion of this mismatch between oral language and school vocabulary, see Hall, Nagy, and Linn (1984).

provide optimal conditions for building the English vocabulary necessary for the domain of school. These activities should be purposeful, meaningful, challenging, contextually rich, and age appropriate.

Background Knowledge

Another challenge ELLs face in learning to read in English involves the background knowledge of these students. Researchers agree that sufficient or appropriate background knowledge is a crucial factor in reading comprehension (which is viewed as an interactive process between the reader and the text) (Adams and Collins, 1979; Carrell, 1983a, 1983b, 1983c, 1984; Carrell and Wallace, 1983; Rumelhart, 1977; etc., as cited in Carrell, 1984). Research in this area is called *schema theory*, and forms the foundation of the reader-centered, psycholinguistic processing model of EFL/ESL reading.⁴¹ According to this theory, reading comprehension becomes efficient if the reader is able to relate the written material to his or her own prior experience or knowledge structures, called *schemata* (Adams and Collins, 1979; Rumelhart, 1980; as cited in Carrell and Eisterhold, 1983).

Since reading comprehension is tied to the reader's ability to relate his or her own experiences to a text, ELLs often face difficulties reading in English. This is because the cultural backgrounds of these students are usually very different from the culture embedded in the English reading material they encounter. Because the background knowledge that these children bring to the reading process is culturally based, culturally biased, and often culture-specific, it is important that teachers be particularly sensitive to reading problems that result from differences between students' background knowledge and the implicit cultural knowledge that a text presupposes (Carrell and Eisterhold, 1983). Educators must find appropriate ways to minimize cultural conflicts and interference in order to maximize comprehension (Carrell and Eisterhold, 1983).⁴²

Cultural and Sociopolitical Risk Factors and Challenges

Other factors hypothesized as contributing to ELLs' higher risk of developing difficulties learning to read are cultural and sociopolitical in nature. In regard to the former, ELLs may encounter a discontinuity between the culture of their school and that of their home in terms of educational values and expectations. There may be a mismatch between the two in definitions of literacy, in beliefs about teaching practices, and in defined roles for parents versus teachers (Jacob and Jordan, 1987; Tharp, 1989; as cited in Snow et al., 1998). Such a mismatch can create obstacles to children's learning to read in school. However, some argue that more influential than such cultural discontinuities are sociopolitical factors that result in low motivation and educational aspirations (Ogbu, 1974, 1982, as cited in Snow et al., 1998). These factors include past and ongoing discrimination against certain minority groups and the low-perceived social and economic opportunities for them.

⁴¹ For detailed information on schema theory and ESL reading, see Carrell and Eisterhold (1983).

⁴² For further information, see Rigg (1981).

In a thorough summary of factors correlated with the development of reading difficulties among children in the U.S., Snow et al. (1998) assert that children at higher risk include:

- Those from families of low socioeconomic status.
- Those who attend schools with disproportionately high numbers of children in poverty.
- Those from ethnic-minority families.
- Those from families with a history of reading difficulties.
- Those from families in which a nonstandard dialect of English is spoken in the home.
- Those from families in which a language other than English is spoken in the home.

Section Two: Learning to Read in English

Most children in literate societies are involved in pre-reading activities very early in their lives. They are surrounded by print; they observe their siblings, their parents and caregivers reading; they are involved in interactive language games; and they are given educational toys that emphasize early literacy development. These experiences prepare children for the point at which reading-related development crosses over from the knowledge of the parts to achieving a functional knowledge of the principles of the culture's writing system and details of its orthography (Snow et al., 1998). This is the point at which "real reading" begins, when children read unfamiliar text without help, relying on print and drawing meaning from it (Snow et al., 1998, p. 42). However, there is no precise age at which all children are ready to make this transition since "the capacity to learn to read and write is guided by the child's individual developmental timetable" (Snow et al., 1998, p. 43).

Irrespective of when a child is ready to begin this transition to real reading, adequate progress in learning to read beyond the initial level in English, or any other alphabetic language, depends on:

- Having a working understanding of how sounds are represented alphabetically.
- Sufficient practice in reading to achieve fluency with different kinds of texts.
- Sufficient background knowledge and vocabulary to render written texts meaningful and interesting.
- Control over procedures for monitoring comprehension and repairing misunderstandings.
- Continued interest and motivation to read for a variety of purposes (Snow et al., 1998, pp. 3-4).

Adapting the above requirements to children learning to read in English, when English is their second language, a reader needs:

- Reasonable knowledge of the English language.
- Knowledge of the phonological and phonemic principles of the English language.

- Knowledge of English orthography, including the alphabetic principle.
- Appropriate background knowledge to construct meaning from the text.
- Adequate reading skills and strategies.
- Sufficient practice in reading to achieve fluency with different kinds of text.
- Continued interest and motivation to read for a variety of purposes.

An overview of how instruction should be tailored to meet the needs of ELLs in regard to these abilities, motivations, and experiences that are necessary for learning to read in English is provided in this section.

Reading Readiness in English

One important component of meeting the needs of ELLs is providing these students with the "reading readiness" they need to begin to learn to read in English. When typical native speakers of English enter kindergarten, they are expected to bring the following skills and experiences with them in preparation for learning to read:

- Several thousand words in their vocabularies.
- A certain level of phonological awareness attained through some prior exposure to rhymes and alliterations.
- Practice writing their own names and "reading" environmental print.
- Other sources of information about the nature of the analysis they will be expected to engage in (Snow et al., 1998).

This includes expectations of appropriate metacognitive and metalinguistic knowledge. For ELLs, however, the reading readiness they have developed for their L1 is not very helpful to them when initial reading instruction is conducted in English. Therefore, researchers advise that formal instruction in reading in English needs to be delayed while these students are supported in developing reading readiness in English.

When non-English speakers are provided with English reading instruction they are not sure whether their first attempts at reading are successful or not because they do not understand the language itself. Snow et al. (1998) warn:

Giving a child initial reading instruction in a language that he or she does not yet speak ... can undermine the child's chance [to] see literacy as a powerful form of communication, by knocking the support of meaning out from underneath the process of learning (Snow et al., 1998, p. 237).

ELLs must instead be supported in acquiring the requisite reading readiness for English before the introduction of formal English reading instruction. This reading readiness includes sufficiently developed English-language vocabulary, phonological and phonemic awareness in relation to the English language, and initial awareness of the alphabetic principle (Snow et al., 1998).

First-Language Reading Instruction

A second important component of meeting the needs of ELLs is providing initial reading instruction in the L1 to those students with no proficiency in English if the school district has the resources to do so (Snow et al., 1998). Even though current research has the tendency to view the L2 oral language proficiency as the critical variable with regard to comprehension, the idea of the transfer of reading skills and strategies from the L1 to any subsequent language a learner might study cannot be ignored. Research based on the still widely accepted psycholinguistic theory of learning provides considerable evidence to this effect.

August and Hakuta (1997) call for further study in the area of transfer of reading skills. They warn:

The essential idea here is that the nature of reading skills needs to be defined somewhat differently at different points in its development, and thus that acquisition of prior skills does not always predict growth in reading ability; there are several points in development where more skills need to be acquired (pp. 60-61).

In summary, the Committee on the Prevention of Reading Difficulties in Young Children concluded that initial reading instruction in the first language is not detrimental to the child's acquisition of English. On the contrary, initial instruction in the second language can have negative short-term and long-term impact on student achievement (Snow et al., 1998, p. 238).

No research was identified on the precise sequence of steps that teachers should follow to develop reading readiness and teach reading skills and strategies to ELLs. In the absence of such research, the recommendations for early reading instruction issued by the Committee for the Prevention of Reading Difficulties in Young Children (Snow et al., 1998) are adapted and presented in Box 2:1.

This complex process should be carried out while incorporating the students' background knowledge. This process should simulate the developmental process that native-English speakers experience while developing reading readiness at an earlier age. It is recommended that this process be implemented in an age-appropriate way, through a challenging curriculum in nonthreatening, enriched classroom environments.

No research on exactly when formal English reading instruction should begin was identified. Although researchers suggest that this instruction should not begin until a reasonable level of English oral proficiency is achieved, what constitutes a reasonable level is not defined. Nonetheless, L1 research provides some general clues as to what this level might be through L1 vocabulary studies, recommending a vocabulary size of several thousand words.

One question, perhaps the most controversial in reading research, remains. Which method is the best for initial reading: the whole-word method (Flesch, 1955, as cited in August and Hakuta, 1997); phonics/direct instruction methods; or whole-language methods (Chall, 1967, 1983; Adams; 1990; as cited in August and Hakuta, 1997). For the first time, however, a mixed method of teaching reading has been recommended "officially" by Adams and Bruck (1995) and Purcell-Gates (1996) (as cited in August and Hakuta, 1997). It is more likely, however, that early literacy acquisition will be successful under a wide variety of circumstances, even though it is often impacted by a long list of challenges and risk factors (August and Hakuta, 1997, p. 24).

Box 2:1

DEVELOPMENTAL ACCOMPLISHMENTS OF LITERACY ACQUISITION⁴³

Birth to 3-Year-Old Accomplishments

- Recognizes specific books by cover.
- Pretends to read books.
- Understands that books are handled in particular ways.
- Enters into a book sharing routine with primary caregivers.
- Vocalization play in crib gives way to enjoyment of rhyming language, nonsense word play, etc.
- Labels objects in books.
- Comments on characters in books.
- Looks at picture in book and realizes it is a symbol for real object.
- Listens to stories.
- Requests/commands adult to read or write.
- May begin attending to specific print such as letters in names.
- Uses increasingly purposive scribbling.
- Occasionally seems to distinguish between drawing and writing.
- Produces some letter-like forms and scribbles with some features on English writing.

Three to 4-Year-Old Accomplishments

- Knows that alphabet letters are a special category of visual graphics that can be individually named.
- Recognizes local environmental print.
- Knows that it is the print that is read in stories.
- Understands that different text forms are used for different functions of print (e.g., list for groceries).
- Pays attention to separable and repeating sounds in language (e.g., Peter, Peter, Pumpkin Eater, Peter Eater).
- Uses new vocabulary and grammatical constructions in own speech.
- Understands and follows oral directions.
- Is sensitive to some sequences of events in stories.
- Shows an interest in books and reading.
- When being read a story, connects information and events to life experiences.
- Questions and comments demonstrate understanding of literal meaning of story being told.
- Displays reading and writing attempts, calling attention to self: "Look at my story."
- Can identify ten alphabet letters, especially those from own name.
- "Writes" (scribbles) message as part of playful activity.
- May begin to attend to beginning or rhyming sound in salient words.

⁴³ Reprinted with permission from *Preventing Reading Difficulties in Young Children*. Copyright 1998 by the National Academy of Sciences. Courtesy of the National Academy Press, Washington, D.C.

Box 2:1 (continued)

Kindergarten Accomplishments

- Knows the parts of a book and their functions.
- Begins to track print when listening to a familiar text being read or when rereading own writing.
- "Reads" familiar texts emergently, i.e., not necessarily verbatim from the print alone.
- Recognizes and can name all upper-case and lower-case letters.
- Understands that the sequence of letters in a written word represents the sequence of sounds (phonemes) in a spoken word (alphabetic principle).
- Learns many, though not all, one-to-one letter sound correspondences.
- Recognizes some words by sight, including a few very common ones (a, the, I, my, you, is, are).
- Uses new vocabulary and grammatical constructions in own speech.
- Makes appropriate switches from oral to written language situations.
- Notices when simple sentences fail to make sense.
- Connects information and events in texts to life and life to text experiences.
- Retells, reenacts, or dramatizes stories or parts of stories.
- Listens attentively to books teacher reads to class.
- Can name some book titles and authors.
- Demonstrates familiarity with a number of types or genres of text (e.g., storybooks, expository texts, poems, newspapers, and everyday print such as signs, notices, labels).
- Correctly answers questions about stories read aloud.
- Makes predictions based on illustrations or portions of stories.
- Demonstrates understanding that spoken words consist of a sequence of phonemes.
- Given spoken sets like "dan, dan, den" can identify the first two as same and the third as different.
- Given spoken sets like "dak, pat, zen" can identify the first two as sharing a same sound.
- Given spoken segments, can merge them into a meaningful target word.
- Given a spoken word, can produce another word that rhymes with it.
- Independently writes many upper-case and lower-case letters.
- Uses phonemic awareness and letter knowledge to spell independently (invented or creative spelling).
- Writes (unconventionally) to express own meaning.
- Builds a repertoire of some conventionally spelled words.
- Shows awareness of distinction between "kid writing" and conventional orthography.
- Writes own name (first and last) and the first names of some friends or classmates.
- Can write most letters and some words when they are dictated.

Box 2:1 (continued)

First Grade Accomplishments

- Makes a transition from emergent to "real" reading.
- Reads aloud with accuracy and comprehension any text that is appropriately designed for the first half of Grade 1.
- Accurately decodes orthographically regular, one-syllable words and nonsense words (e.g., sit, zot) using print-sound mappings to sound out unknown words.
- Uses letter-sound correspondence knowledge to sound out unknown words when reading text.
- Recognizes common, irregularly spelled words by sight (have, said, where, two).
- Has reading vocabulary of 300 to 500 words, sight words, and easily sounded out words.
- Monitors own reading and self-corrects when an incorrectly identified word does not fit with cues provided by the letters in the word or the context surrounding the word.
- Reads and comprehends both fiction and nonfiction that is appropriately designed for grade level.
- Shows evidence of expanding language repertory, including increasing appropriate use of standard, more formal language registers.
- Creates own written texts for others to read.
- Notices when difficulties are encountered in understanding text.
- Reads and understands simple written instructions.
- Predicts and justifies what will happen next in stories.
- Discusses prior knowledge of topics in expository texts.
- Discusses how, why, and what-if questions in nonfiction texts.
- Describes new information gained from texts in own words.
- Distinguishes whether simple sentences are incomplete or fail to make sense; notices when simple texts fail to make sense.
- Can answer simple written comprehension questions based on material read.
- Can count the number of syllables in a word.
- Can blend or segment the phonemes of most one-syllable words.
- Spells correctly three- and four-letter short vowel words.
- Composes fairly readable first drafts using appropriate parts of the writing process (some attention to planning, drafting, and rereading for meaning and some self-corrections).
- Uses invented spelling/phonics-based knowledge to spell independently when necessary.
- Shows spelling consciousness or sensitivity to conventional spelling.
- Uses basic punctuation and capitalization.
- Produces a variety of compositions (e.g., stories, descriptions, journal entries), showing appropriate relationships between printed text, illustrations, and other graphics.
- Engages in a variety of literary activities voluntarily (e.g., choosing books and stories to read, writing a note to a friend).

Box 2:1 (continued)

Second Grade Accomplishments

- Reads and comprehends both fiction and nonfiction that is appropriately designed for grade level.
- Accurately decodes orthographically regular, multisyllable words and nonsense words (e.g., capital, Kalamazoo).
- Uses knowledge of print-sound mappings to sound out unknown words.
- Accurately reads many irregularly spelled words and such spelling patterns as diphthongs, special vowel spellings, and common word endings.
- Reads and comprehends both fiction and nonfiction that is appropriately designed for the grade.
- Shows evidence of expanding language repertory including increasing use of more formal language registers.
- Reads voluntarily for interest and own purposes.
- Rereads sentences when meaning is not clear.
- Interprets information from diagrams, charts, and graphs.
- Recalls facts and details of texts.
- Reads nonfiction materials for answers to specific questions or for specific purposes.
- Takes part in creative responses to texts such as dramatizations, oral presentations, fantasy play, etc.
- Discusses similarities in characters and events across stories.
- Connects and compares information across nonfiction selections.
- Poses possible answers to how, why, and what if questions.
- Correctly spells previously studied words and spelling patterns in own writing.
- Represents the complete sound of a word when spelling independently.
- Shows sensitivity to using formal language patterns in place of oral language patterns at appropriate spots in own writing (e.g., decontextualizing sentences, conventions for quoted speech, literary language forms, proper verb forms).
- Makes reasonable judgments about what to include in written products.
- Productively discusses ways to clarify and refine writing of self and others.
- With assistance, adds use of conferencing, revision, and editing processes to clarify and refine own writing to the steps of the expected parts of the writing process.
- Given organizational help, writes informative, well-structured reports.
- Attends to spelling, mechanics, and presentation for final products.
- Produces a variety of types of compositions (e.g., stories, reports, correspondence).

Box 2:1 (continued)

Third Grade Accomplishments

- Reads aloud with fluency and comprehension any text that is appropriately designed for grade level.
- Uses letter-sound correspondence knowledge and structural analysis to decode words.
- Reads and comprehends both fiction and nonfiction that is appropriately designed for grade level.
- Reads longer fictional selections and chapter books independently.
- Takes part in creative responses to texts such as dramatizations, oral presentations, fantasy play, etc.
- Can point to or clearly identify specific words or wordings that are causing comprehension difficulties.
- Summarizes major points from fiction and nonfiction texts.
- In interpreting nonfiction, distinguishes cause and effect, fact and opinion, main idea and supporting details.
- Uses information and reasoning to examine basis of hypotheses and opinions.
- Infers word meaning from taught roots, prefixes, and suffixes.
- Correctly spells previously studied words and spelling patterns in own writing.
- Begins to incorporate literacy words and language patterns in own writing (e.g., elaborates descriptions, uses figurative wording).
- With some guidance, uses all aspects of the writing process in producing own compositions and reports.
- Combines information from multiple sources when writing reports.
- With assistance, suggests and implements editing and revision to clarify and refine own writing.
- Presents and discusses own writing with other students and responds helpfully to other students' compositions.
- Independently reviews work for spelling, mechanics, and presentation.
- Produces a variety of written work (e.g., literature response, reports, "published" books, semantic maps) in a variety of formats, including multimedia forms.

First-Language Instructional Support

A third important component of meeting the needs of ELLs is providing instructional support in the L1 at least through age 8. This facilitates the process of learning to read in English in two primary ways. Firstly, by providing ELLs with L1 instructional support, they are given access to academic content through a language they understand. This in turn increases the background knowledge and continual age-appropriate cognitive development of these students, which, as was discussed above, is so important to reading comprehension. Secondly, L1 instructional support assists ELLs in completing the first-language development process. This is important because, as was discussed in Chapter One, an ELL's degree of L1 development is an important factor in the rate of L2

acquisition, and because there is a strong correlation between English as a second language oral proficiency and English reading ability.

Although this point is often controversial in public debate, research has provided compelling evidence to this effect. "Children with good schooling in their native language are able to transfer both skills and concepts to English, and this accelerates their transition to mainstream instruction" (Chamot, 1998, p. 5). As is noted by Thomas and Collier (1997), "The deeper a student's level of the L1 cognitive and academic development (which includes L1 proficiency development), the faster students will progress in L2 [proficiency development]" (p. 38). Of all the student background variables Thomas and Collier examined, the most powerful predictor of L2 reading success is formal schooling in a student's L1.

Conclusion

Learning to read in a second language is a complex and therefore challenging, developmental process that is influenced by a multiplicity of factors and which has many prerequisites. Children who speak a language other than English upon entering kindergarten or first grade require a specific set of instructional steps in order to develop the necessary prereading skills, such as phonological and phonemic awareness for the English language, a reasonable oral language proficiency in English, and the necessary background knowledge in order to access meaning from the written text.

Many different studies attempted to evaluate a variety of instructional approaches with regard to the language of instruction and the timing of initial reading instruction for second-language learners. This issue has remained probably one of the most controversial topics of discussion among educators and politicians alike. The research in this area has failed to provide educators with definite answers on which to base their decisions. Nevertheless, recent work by the Committee on the Prevention of Reading Difficulties in Young Children (Snow et al., 1998) and Thomas and Collier (1997) provide strong evidence that:

- Initial reading instruction in the first language is not detrimental to the child's acquisition of English. On the contrary, initial instruction in the second language can have negative short-term and long-term impact on student achievement.
- Initial literacy instruction should be conducted in the native language whenever possible.
- Formal reading instruction in English should be delayed until a reasonable oral proficiency in English is acquired.
- Concurrent formal instruction in the native language of the child should be conducted whenever possible so that the child can access on-grade content information in the subject area, complete the first-language development cycle, and continue in the development of the age appropriate cognitive skills. (There are numerous models of bilingual instruction or instruction in two languages: the child's dominant language and English. The model proposed by Krashen is presented in Appendix B.)

- Educators need to be aware of a variety of risk factors that correlate with reading difficulties for language-minority children, while understanding the importance of individual differences in reference to learning English as a second language or learning to read.

Chapter Three

School, Program, and Classroom Characteristics That Support the Academic Achievement of English-Language Learners⁴⁴

Research suggests that it is problematic to investigate the reading development needs of English-language learners (ELLs) through a limited focus on reading instructional strategies. What is instead needed is a broader focus that encompasses a student's overall educational environment. This is because reading outcomes are determined by complex and multifaceted factors; factors that include student background knowledge and a student's linguistic and cognitive development (Braunger and Lewis, 1997; Snow, Burns, and Griffin, 1998; Thomas and Collier, 1997). Hence, identifying effective strategies for facilitating the reading development of ELLs must involve an identification of those school, program and classroom characteristics that influence a student's overall academic achievement. What is currently known about both the relative effectiveness of various program models for ELLs (such as late- and early-exit bilingual education) and the school and classroom characteristics that promote the academic achievement of these students is reviewed in the chapter.

Section One: Relative Effectiveness of Program Models

Since the 1970s there has been considerable debate over the relative efficacy of various program models for the education of ELLs, with the varying degree to which ELLs' native languages are used for instruction in these models being the primary source of contention (see Box 3:1 for a list of these models and their descriptions).⁴⁵ This focus on broad programmatic categories may be overly simplistic. Instead, a more sophisticated approach is to include *language of instruction* as one consideration while evaluating the relative effectiveness of individual programmatic components (August and Hakuta, 1997; Thomas and Collier, 1997). Nonetheless, because language of instruction is a significant factor in the education of ELLs and because so much attention has been given to the debate over program models, the research findings regarding these models is reviewed in this section.

This section begins with a review of three of the four national-level evaluations that have been conducted of programs for ELLs and an examination of key reviews of smaller-scale program evaluations. In both instances, attention is paid to the criticisms that have been made of these evaluations and reviews regarding the validity of their findings. The section concludes with a more detailed discussion of the fourth national-level evaluation: Thomas and Collier (1997). The focus on this study is because it appears to have provided significant insight into the relative effectiveness of various program models, while avoiding a number of the limitations of other studies in this area.

⁴⁴ This chapter is substantially based on the work of August and Hakuta (1997).

⁴⁵ See Appendix A for an overview of Washington State's programs for the education of ELLs.

Box 3:1

PROGRAM MODELS FOR THE EDUCATION OF ENGLISH-LANGUAGE LEARNERS IN THE U.S.⁴⁶

- **Structured immersion:** All students in the program are ELLs and are usually (though not always) from different language backgrounds. Instruction is provided in English, with an attempt made to adjust the level of English so that the subject matter is comprehensible. Typically there is no native-language support.
- **Early-exit bilingual education:** Most students in the program are ELLs. Some degree of instruction is provided through students' native languages; however, because the goal of the model is to transition students into mainstream classrooms as quickly as possible (usually within two to three years), even within the program there is a rapid shift toward using primarily English. This program type is alternately termed transitional bilingual education.
- **Late-exit bilingual education:** Most students in the program are ELLs who share the same first language. A significant amount of instruction is provided through the students' native language. Like the early-exit model, this model aims to develop English proficiency; unlike the early-exit model, however, it has the concomitant goal of developing academic proficiency in the native language. Late-exit bilingual education also differs from the early-exit model in that the former generally involves students for several more years than the latter. This program type is alternately termed maintenance or developmental bilingual education.
- **Two-way developmental bilingual education:** About one half of the students in the program are native English speakers, and the other half are ELLs with the same first language. The goal of this model is to develop proficiency in both languages for both groups of students. Like late-exit bilingual education, this model usually involves students for several more years than the early-exit model.

COMMONLY EMPLOYED ENGLISH-LANGUAGE INSTRUCTIONAL APPROACHES WITHIN THESE PROGRAM MODELS

- **English-as-a-second language (ESL):** Students receive specified periods of instruction aimed at the development of English-language skills, with a primary focus on grammar, vocabulary, and communication rather than academic content areas.
- **Content-based ESL:** Students receive specified periods of ESL instruction that is structured around academic content rather than general English-language skills.
- **Sheltered instruction:** Students receive subject matter instruction in English, modified so that it is accessible to them at their levels of English proficiency.

⁴⁶ The definitions provided in Box 3:1 are a synthesis of those employed by August and Hakuta (1997) and Thomas and Collier (1997).

National Evaluations

There have been four large-scale, national-level evaluations of programs for ELLs: the American Institutes for Research Study (1978), the Longitudinal Study (1984, 1989), the Immersion Study (1991), and Thomas and Collier (1997). The first three have proven to be of little utility in comparing the effectiveness of program models (August and Hakuta, 1997). However, because they have played such a prominent role in the debate over program models, a brief review is provided. This review is followed with a summarization of the findings of a National Research Council report (Meyer and Fienberg, 1992) that evaluates both the longitudinal and immersion studies.

The first large-scale, national-level evaluation of programs for ELLs was conducted by the American Institutes for Research and is commonly referred to as the AIR study (Dannoff, 1978). The study compared students enrolled in Title VII bilingual programs to comparable students not enrolled in such programs. In the study, 8,200 children were measured twice during the school year on English oral comprehension and reading, Spanish oral comprehension and reading, and mathematics. In general, the results showed that students in bilingual education programs failed to gain more on these measures of academic achievement than students not in such programs (with the exception of Spanish reading achievement).

However, the study was the subject of a great deal of criticism. One major criticism involved the questionable strength of the treatment/control group comparison (August and Hakuta, 1997). A second common criticism was the fact that no attempt was made to separate high-quality Title VII programs from those of low quality and, therefore, the findings are not informative as to the actual impact of high-quality Title VII programs (Cziko, 1992).

In part because of the ambiguity of the conclusions from the AIR study, two major longitudinal studies were commissioned by the U.S. Department of Education to examine program effectiveness (August and Hakuta, 1997). The first of these studies was the National Longitudinal Evaluation of the Effectiveness of Services for Language Minority Limited English Proficient Students (Burkheimer, Conger, Duntelman, Elliott, and Mowbray, 1989; Development Associates, 1984). Commonly referred to as the Longitudinal Study, it was divided into two phases. The first phase examined the variety of services provided to ELLs (Development Associates, 1984). The second phase attempted to determine the relative effectiveness of programs for these students (Burkheimer et al., 1989). This latter phase included 25 schools, with students from kindergarten to fifth grade being followed over three years. The most pertinent of its findings were:

- The yearly achievement of ELLs in math and English language arts is facilitated by different approaches, depending on student background factors. For example, students who are relatively English proficient are better able to benefit from English language arts instruction given in English, whereas students who are weak in English or strong

in their native language show better yearly English language arts achievement when instructed in their native language.

- In earlier grades yearly mathematics achievement gains, as measured by tests conducted in English, can be realized regardless of whether the language used for mathematics instruction is English or the student's native language. In later grades, however, yearly mathematics achievement gains will not be realized on tests conducted in English until the child gains some mastery of the language (through English language arts instruction or exposure to instruction in English in other courses, particularly mathematics).

The second study commissioned by the U.S. Department of Education to examine program effectiveness was the Longitudinal Study of Immersion and Dual Language Instructional Programs for Language Minority Children (Ramirez, Yuen, Ramey, and Pasta, 1991). Commonly known as the Immersion Study, it was an attempt at a quasi-experimental longitudinal comparison of three program types: English-only immersion, early-exit bilingual, and late-exit bilingual. The study followed over 2,000 elementary school children in nine districts for four years. Broadly speaking, the researchers concluded:

Providing LEP [limited English proficient] students with substantial instruction in their primary language does not interfere with or delay their acquisition of English language skills, but helps them to "catch-up" to their English-speaking peers in English language arts, English reading, and math. In contrast, providing LEP students with almost exclusive instruction in English does not accelerate their acquisition of English language arts, reading or math, i.e., they do not appear to be "catching-up" (Ramirez, 1992, p. 1).

However, both the longitudinal and immersion studies have been widely criticized as having a number of methodological weaknesses that threaten the validity of their findings. The most influential of these criticisms has come from a National Research Council panel of the Committee on National Statistics charged with determining whether the statistical methods employed in the studies were appropriate (Meyer and Fienberg, 1992). The panel's findings included:

- The formal designs of both the longitudinal and immersion studies were poorly suited to answering the policy questions that appear to have motivated them.
- The execution and interpretation of these studies, especially the longitudinal study, were hampered by a lack of documentation of the study objectives, the operationalizing of conceptual details, actual procedures followed, and changes in all of the above.
- Both studies suffered from excessive reliance on the use of elaborate statistical methods intended to overcome the shortcomings of the research designs.
- Although the samples in the immersion study were followed longitudinally, later comparisons lack validity due to sample attrition.

Reviews of Smaller-Scale Evaluations

As the findings of the National Research Council panel suggest, the manifold limitations of these national-level evaluations have rendered them of little use in comparing the effectiveness of programs for ELLs (August and Hakuta, 1997). In contrast, more has been learned from reviews of smaller-scale evaluations, although these have suffered from methodological limitations as well (August and Hakuta, 1997). Therefore, in the following discussion those reviews of smaller-scale evaluations that have proven most influential in the debate over the effectiveness of program models for ELLs are examined.

The first of these is Baker and de Kanter (1981), which is still "by far the most influential review of studies in bilingual education, despite its age ..." (August and Hakuta, 1997, p. 144). In this review, the authors attempted to determine whether there was a sufficient research basis to justify the exclusive use of early-exit bilingual education over alternative forms of instruction. To do this they began by locating approximately 150 program evaluations. They then excluded all those they viewed as methodologically unacceptable.⁴⁷ The findings of the remaining 28 studies were used to compare early-exit bilingual education to other program types in terms of student second-language and math skills outcomes. This was done by first grouping the studies according to whether they found early-exit bilingual education to have significant positive, significant negative, or nonsignificant outcomes in relation to comparison programs; and then tallying each of these categories to arrive at an overall summary. Utilizing this technique (commonly termed the *voting method*), Baker and de Kanter concluded that "the case for the effectiveness of transitional [early-exit] bilingual education is so weak that exclusive reliance on this instruction method is clearly not justified" (p. 1). However, it is important to reiterate that these researchers were not attempting to determine whether or not bilingual education was effective, but merely whether there was a sufficient research foundation at that time to justify the exclusive use of early-exit bilingual education over alternative forms of instruction.

Two other influential reviews of smaller-scale evaluations are Rossell and Ross (1986) and Rossell and Baker (1996). Expanding on the work of Baker and de Kanter (1981) and Baker and Pelavin (1984), these researchers considered studies that compared the effects of early-exit bilingual education to those of other educational alternatives for ELLs. Like Baker and de Kanter (1981), these reviews utilized studies they deemed to be methodologically acceptable⁴⁸ to compare programs in terms of student second-language and math skills outcomes (though Rossell and Baker added the additional consideration of second-language reading outcomes). Also like Baker and de Kanter (1981), these reviews employed the voting method to summarize study findings. Utilizing this method, both Rossell and Ross (1986) and Rossell and Baker (1996) arrived at essentially the

⁴⁷ To be included in Baker and de Kanter's review, a study essentially had to either employ random assignment of children to treatment and control groups or take measures to ensure that treatment and control groups were equivalent.

⁴⁸ To be considered methodologically acceptable, studies had to randomly assign students to programs or to statistically control for pretreatment differences between groups when random assignment was not possible.

same conclusions: (1) The research does not support early-exit bilingual education as a superior form of instruction for ELLs and (2) structured immersion is a more promising approach.

However, the methodology utilized by both Rossell and Ross (1986) and Rossell and Baker (1996) has been criticized by a number of researchers. One argument is that the selection criteria employed in these reviews for the inclusion of studies are improper (e.g., Greene, 1998; Krashen, 1996; Thomas and Collier, 1997). A second argument is that the voting method utilized in these reviews is error prone (e.g., Greene, 1998; Thomas and Collier, 1997), an assertion to which Rossell and Ross (1986) in fact concede.

A more refined approach than the voting method employed by Baker and de Kanter (1981), Rossell and Ross (1986), and Rossell and Baker (1996) is the use of a technique known as meta-analysis (Thomas and Collier, 1997; Willig, 1985). A meta-analysis is a statistical synthesis of primary studies that provides a quantitative estimate of the effect of an intervention. Willig (1985) conducted a meta-analysis of the studies reviewed by Baker and de Kanter (1981) and reached a far different conclusion than these authors.⁴⁹ Utilizing this technique, Willig found that when compared to the provision of no special intervention at all, early-exit bilingual education:

Consistently produced small to moderate differences favoring bilingual education for tests of reading, language skills, mathematics, and total achievement when the tests were in English; and for reading, language, mathematics, writing, social studies, listening comprehension, and attitudes toward school or self when tests were in other languages (p. 269).⁵⁰

Yet, although meta-analysis is considered a stronger technique than the voting method, like the other reviews discussed above, Willig (1985) has limitations that suggest its findings should be viewed with caution. The most problematic of these limitations is that:

It employs the questionable practice of including the same study more than once in the analysis. Willig used a complicated weighing procedure to compensate for this problem, but she may not have been entirely successful in this effort. While the practice of using the same study more than once is quite common in meta-analysis, it does seriously compromise the validity of the inferential statistical analysis (August and Hakuta, 1997, p. 146).

Furthermore, Willig herself notes that although the technique of meta-analysis attempts to statistically control for the methodological inadequacies of the studies analyzed, these

⁴⁹ Willig (1985) only incorporated 16 of the 28 studies reviewed by Baker and de Kanter (1981). The rationale provided for excluding these 12 studies was three analyzed programs outside the U.S.: one was a synthesis of studies, not primary research; one evaluated a program that took place outside the regular school day; and the final seven lacked sufficient data to perform the necessary calculations.

⁵⁰ Willig did not compare the effects of early-exit bilingual education with those of other special programs (such as structured immersion). In part this is because neither she nor Baker and de Kanter (1981) could find many evaluations at that time that made such comparisons (August and Hakuta, 1997).

inadequacies nonetheless render the results of her analysis "less than definitive" (Willig, 1985, p. 269).

However in another, more recent meta-analysis, Greene (1998) provides evidence that supports Willig's findings. Greene conducted a meta-analysis of the studies reviewed by Rossell and Baker (1996) and, like Willig (1985), reached a conclusion that contradicted that of the original review. Greene found that "children with limited English proficiency who are taught using at least some of their native language perform significantly better on standardized tests than similar children who are taught only in English" (Greene, 1998, p. 1). Nonetheless, because it is too soon to tell how Greene's analysis will be met by peer review, his findings, like Willig's, should be viewed with caution.⁵¹

Thomas and Collier (1997)

Although the use of the meta-analysis technique lends greater credence to the findings of Willig (1985) and Greene (1998) than to those of the other reviews of smaller-scale evaluations discussed above, the evidence they provide in support of bilingual education cannot be considered conclusive. Like the national-level evaluations, the reviews of smaller-scale evaluations are plagued by methodological weaknesses and contradictory findings that limit their ability to resolve the debate over program effectiveness. However, the last national-level evaluation addressed in this chapter, Thomas and Collier (1997), has avoided a number of the limitations of these studies and reviews. In doing so these researchers have provided strong evidence of the greater effectiveness of two-way and late-exit bilingual education in relation to other program models.

Conducted in five urban and suburban school district sites in various regions of the U.S., Thomas and Collier's research focused on (1) the length of time needed for ELLs to reach and sustain on-grade-level achievement in their second language and (2) the student, programmatic, and instructional variables that influence language-minority students' academic achievement. The study involved over 700,000 student records collected between 1982 and 1996, including those of over 42,000 students who attended the subject schools for four years or more. The data analysis matched the historical records of student background variables and educational program treatment variables with outcome measures, in a series of cross-sectional and longitudinal analyses.

The study's findings in regard to the relative efficacy of various program models are graphically depicted in Figure 3:1. In this figure, the dotted line at the 50th normal curve equivalent (NCE) represents typical native-English speakers' performance on standardized tests in English reading (while making ten months of progress with each ten-month year of school). Each solid line represents the typical academic performance on these English reading tests of language-minority students participating in the given

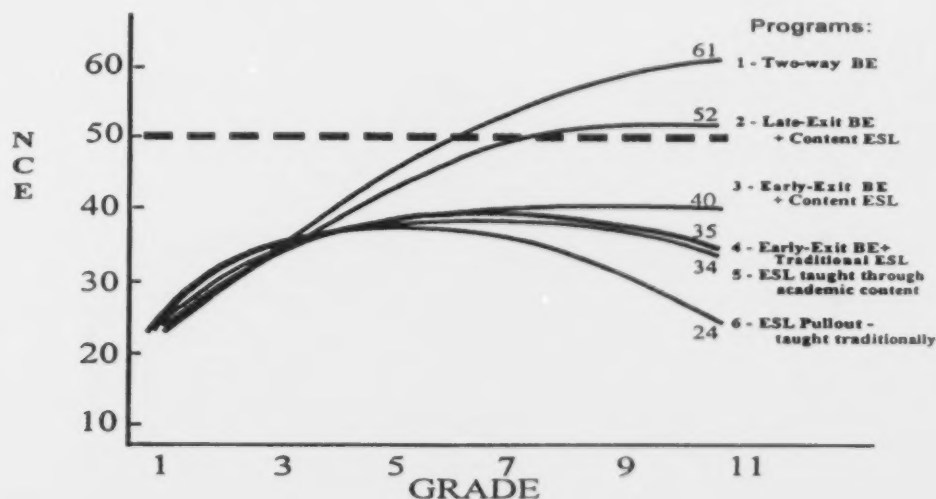
⁵¹ One possible source of contention over Greene (1998) is the fact that his analysis included only 11 of the 75 studies encompassed by Rossell and Baker (1996). According to Greene, most of these were excluded because they lacked adequate control groups, were separately released reports of the same programs by the same authors, or inadequately controlled for differences between treatment and control groups when randomized assignment was not employed.

program type. Although not reflected in Figure 3:1, the same general pattern of language-minority student performance was also manifested on standardized tests in social studies, science, mathematics, and English language arts (although achievement in the latter two categories is slightly higher for all program types). As can be seen in Figures 3:1 and 3:2, only the two-way developmental bilingual and late-exit bilingual program models succeeded in producing ELL achievement that reaches parity with that

Figure 3:1

**PATTERNS OF K-12 ENGLISH LEARNERS' LONG-TERM
ACHIEVEMENT IN NCEs ON STANDARDIZED TESTS IN ENGLISH
READING COMPARED ACROSS SIX PROGRAM MODELS⁵²**

- Program 1: Two-Way Developmental Bilingual Education (BE)
 Program 2: Late-Exit BE, including ESL taught through academic content*
 Program 3: Early-Exit BE, including ESL taught through academic content*
 Program 4: Early-Exit BE, including ESL, both taught traditionally
 Program 5: ESL taught through academic content**
 Program 6: ESL pullout—taught traditionally



(Results aggregated from a series of four- to-eight year longitudinal studies from well-implemented, mature programs in five school districts)

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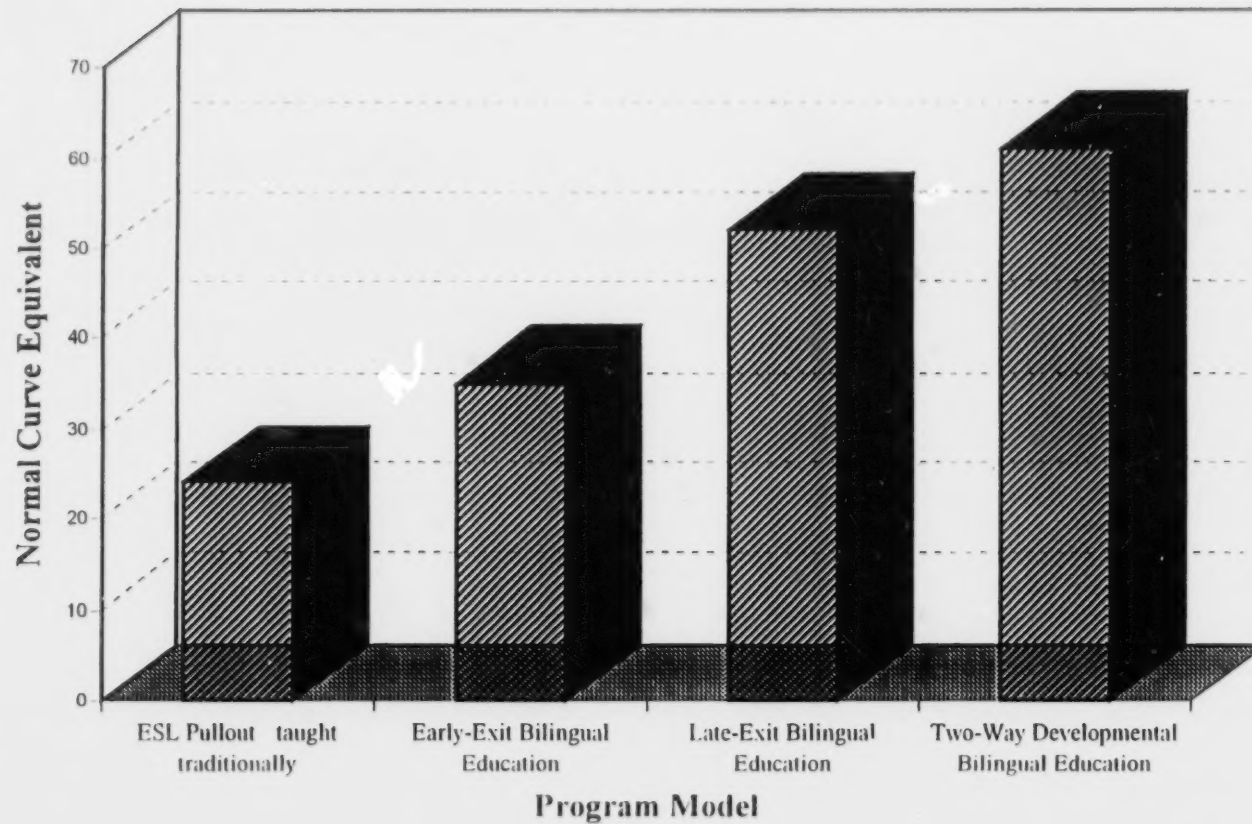
* Thomas and Collier's original graph is modified to reflect the terminology of this document. In the original, late- and early-exit BE were termed one-way developmental BE and transitional BE respectively.

** Program 5 corresponds to "structured immersion" as defined in this document.

⁵² Figure 3:1 represents a synthesis of the test scores of 42,317 students who were tracked in overlapping four- to eight-year longitudinal cohorts (Thomas and Collier, 1997).

Figure 3:2

**AVERAGE PERFORMANCE IN ELEVENTH GRADE OF STUDENTS
WHO START KINDERGARTEN AS NON-ENGLISH SPEAKERS**



08

67

This figure is based on the work of Thomas and Collier (1997) presented in Figure 3:1.

of native-English speakers. Importantly, the data analysis used to generate Figure 3:1 strongly controlled for student background variables. For instance, the graph only represents cohorts of students who started kindergarten in the U.S. with no proficiency in English and who are of low socioeconomic status (SES) (although the same general patterns were found regardless of student SES). Furthermore, only analyzed were the performances of language-minority students who received just one type of special program, and who only participated in these programs during their elementary school years.⁵³

Thomas and Collier (1997) avoided a number of the limitations inherent in much of the other research in this area. For example, Thomas and Collier only incorporated data from well-implemented examples of the various program models in order to reduce the confounding effects of implementation differences on instructional effectiveness. Failure to address these confounding effects has been a criticism of the AIR study. Another example is the fact that by tracking the progress of over 42,000 students for three years or more, Thomas and Collier limited the problems associated with experimental mortality that have undermined the validity of other studies (e.g., Ramirez et al., 1991).⁵⁴

However, the most significant difference between Thomas and Collier (1997) and other studies of the effectiveness of program models for ELLs is the former's long-term perspective that addresses students' entire school careers. In contrast to Thomas and Collier's work, other research in this area has generally focused on the early grades and has rarely tracked student achievement for longer than four years. Thomas and Collier argue that this short-term focus on the early grades may be largely responsible for the fact that previous research has often found little difference between program types on the academic achievement of ELLs. This is because, as can be seen in Figure 3:1, the influence of the various program models on student achievement is difficult to detect in the early grades and over short periods of time. By addressing student achievement patterns over both the elementary and secondary school years, Thomas and Collier have shown that the differential influence of these models nonetheless becomes increasingly pronounced as language-minority students progress through school (even after they have been exited from special programs).

Thomas and Collier's findings of the superiority of the two-way and late-exit bilingual models in supporting the achievement of language-minority students in reading (and other academic areas) are of serious consequence for Washington State. According to the Office of Superintendent of Public Instruction (1998a), only a small percentage of the ELLs in Washington are served by programs that can be considered late-exit or two-way bilingual education. Instead, almost all the ELLs served by special programs are in

⁵³ The length of student participation in these programs varied according to program type. This could be a minimum of two years (e.g., ESL pullout) to a maximum of seven years (e.g., late-exit bilingual education). The failure of Thomas and Collier (1997) to control for this variable is appropriate since the length of student participation is a defining characteristic of these programs. For example, rapid transition of students to mainstream instruction is a goal of early-exit bilingual education.

⁵⁴ Experimental mortality is when the sample being studied shrinks through attrition (e.g., the students in a study's sample group are lost due to school transfer, death, etc.).

programs that conform to one of the four models Thomas and Collier found fail to produce long-term language-minority student achievement that reaches parity with that of native-English speakers.⁵⁵ These findings suggest that an effective approach to *facilitating the reading development* of Washington's ELLs would be to provide more of these students with late-exit and two-way developmental bilingual education.

Characteristics of Effective Schools and Classrooms

Thomas and Collier's findings should not be underestimated in their significance to the debate over program models for ELLs. However, as was noted previously, the debate itself may be overly simplistic. As August and Hakuta (1997) point out, programs are not unitary but a complex series of components; programs that share the same nominal label can vary greatly, both in terms of these underlying components and in terms of student achievement outcomes. A more sophisticated approach to finding effective methods of educating ELLs is to go beyond a debate over broad programmatic categories, to an effort to identify those school- and classroom-level factors that effect the academic achievement of these students (August and Hakuta, 1997).

Therefore, in this section a synthesis of the findings of studies that attempt to identify school- and classroom-level factors related to effective schooling for language-minority students is provided. It begins with an overview of the types of studies included in this synthesis and concludes with a discussion of those attributes of schools and classrooms that have been found to support the academic achievement of language-minority students.⁵⁶ These are:

- Positive classroom and schoolwide climates.
- The use of effective grouping strategies.
- The customization of learning environments.
- The use of native languages.
- The use of instructional strategies that enhance understanding.
- The provision of cognitively complex, on-grade-level instruction.
- The provision of a balanced curriculum.
- The provision of ample opportunities for students to practice English.
- School efforts to build school-home collaboration.
- Effective staff development.⁵⁷

⁵⁵ See Appendix A for an overview of Washington State's programs for the education of ELLs.

⁵⁶ Not all studies in this synthesis focus on ELLs specifically, but instead address the broader category of language-minority students.

⁵⁷ Though not as frequently cited as the attributes in the above list, some studies reviewed in this section also mention the importance of informing instruction through ongoing classroom-level assessment of students' progress and needs (Moll, 1988; Tharp, 1982; Thomas and Collier, 1997). (For an extended discussion of classroom-based assessment of ELLs, see Genesee and Hamayan, 1994; see also Garcia, 1994.) In addition, studies by Berman, Minicucci, McLaughlin, Nelson, and Woodworth (1995), Slavin and Madden (1995), and Slavin and Yampolsky (1992) note the importance of collaboration between all of a school's teachers involved in educating language-minority students (e.g., mainstream classroom teachers, tutors, and bilingual/ESL staff). Though again not as routinely cited in the studies reviewed in this section,

Study Methodologies

The studies included in this review fit into five general categories when classified by the type of methodology employed:

- **Prospective case study design:** In this design, researchers attempt to document changes in schools, programs, or classrooms as they occur and the effects of these changes on student achievement.
- **Effective schools/classrooms design:** In this design, one or more schools or classrooms are identified as effective based on measures of student learning or achievement (i.e., outcome measures). Researchers then attempt to document those aspects of the school(s) or classroom(s) that contribute to this effectiveness.
- **Nominated schools design:** In this design, one or more schools are identified as effective based on the professional judgments of knowledgeable educators, rather than on the basis of outcome measures. As in the effective schools/classrooms design, researchers then attempt to document those aspects of the school(s) that produce this effectiveness.
- **Experimental design:** In this design, treatments (e.g., instructional methods and grouping strategies) are tested on students to determine their effectiveness. This is accomplished by generating comparison and control groups through randomized assignment, providing the comparison group(s) with the treatment, and then measuring student learning or achievement to determine the treatment's effect.
- **Quasi-experimental design:** Like the experimental design, in this design treatments are evaluated by outcome measures to determine their effect on student learning or achievement. However, this design lacks randomized assignment to treatment and control groups, instead employing methods to approximate the statistical strength of randomized assignment.

Each of these design types has its methodological strengths and limitations. Because a study's limitations do not necessarily invalidate its findings, all of these design types are included in this section.⁵⁸ However, the reader should remain cognizant of the limitations of the nominated schools design. Although the nominated schools studies provide highly detailed descriptions of effective schools, their general lack of student achievement measurements greatly undermines their authors' ability to make assertions as to what attributes make these schools effective or even that they are truly effective at all (August and Hakuta, 1997).

Table 3:1 categorizes the central studies reviewed in this section according to their design type. Aside from the studies listed therein, other research was incorporated when it helped inform the discussion.

the need for such collaboration is often discussed throughout the literature on educating ELLs (e.g., Sakash and Rodriguez-Brown, 1995).

⁵⁸ See August and Hakuta (1997) for a discussion of the relative strengths and weaknesses of these designs in the area of educational research.

Table 3:1**STUDIES OF SCHOOL AND CLASSROOM EFFECTIVENESS⁵⁹**

Effective schools/classrooms	Carter and Chatfield (1986) Wong Fillmore, Ammon, McLaughlin, and Ammon (1985)
Nominated schools	Berman, Minicucci, McLaughlin, Nelson, and Woodworth (1995) Lucas and Katz (1994) Pease-Alvarez, Garcia, and Espinosa (1991) Tikunoff (1983)
Nominated and effective schools/classrooms	Garcia (1988) Moll (1988)
Prospective case study	Rosebery, Warren, and Conant (1992) Short (1994)
Experimental	Tharp (1982)
Quasi-experimental	Chamot, Dale, O'Malley, and Spanos (1992) Dianda and Flaherty (1995) Goldenberg and Gallimore (1991) Goldenberg and Sullivan (1994) Henderson and Landesman (1992) Muniz-Swicegood (1994) Thomas and Collier (1997) Slavin and Madden (1995) Slavin and Yampolsky (1992)

Positive Classroom and Schoolwide Climates

A number of researchers report that positive classroom (Pease-Alvarez et al., 1991; Tharp, 1982) and schoolwide (Berman et al., 1995; Carter and Chatfield, 1986; Goldenberg and Gallimore, 1991; Thomas and Collier, 1997) climates are correlated with higher academic achievement among language-minority students. Although the particular manifestations of such climates vary, several commonalities are apparent. Throughout the research, schools and classrooms with positive climates are depicted as those in which:

⁵⁹ These studies are limited to those that involve students attending elementary or middle school.

- Significant value is placed on the linguistic and cultural backgrounds of language-minority students (Berman et al., 1995; Lucas and Katz, 1994; Pease-Alvarez et al., 1991; Thomas and Collier, 1997). This validation of students' linguistic and cultural backgrounds is believed to enhance student self-esteem, thereby supporting student achievement.
- There are high expectations in regard to the academic success of language-minority students (Berman et al., 1995; Carter and Chatfield, 1986; Goldenberg and Gallimore, 1991; Moll, 1988). Rejected is the idea that language-minority students are intellectually or academically disadvantaged because of their socioeconomic status or because of their cultural or linguistic backgrounds. Indeed, a student's home language and culture are viewed as resources to be built upon as opposed to liabilities to be remediated. Students are seen as being able to achieve as much as instruction and the curriculum allow. Therefore, poor student academic performance is considered a failure on the part of the school, not of the home environment.
- Students experience a safe environment that is conducive to learning (Carter and Chatfield, 1986; Garcia, 1988; Pease-Alvarez et al., 1991; Thomas and Collier, 1997). On a schoolwide level this environment is characterized as safe, orderly and courteous (Carter and Chatfield, 1986). On a classroom level, it is characterized as one in which teachers foster a friendly, almost familial classroom atmosphere that encourages trusting and caring relationships between class members (particularly between students and their teacher) (Garcia, 1988; Pease-Alvarez et al., 1991).

In addition, schools depicted as having positive climates are characterized as those in which language-minority students and the programs implemented to serve their needs are an integral part of the overall school operation (Carter and Chatfield, 1986; Pease-Alvarez et al., 1991).⁶⁰

Effective Grouping Strategies

A recurrent theme in the studies reviewed in this section is the effectiveness of utilizing student grouping strategies such as cooperative learning groups, peer tutoring, and partner reading in the classroom (Berman et al., 1995; Dianda and Flaherty, 1995; Garcia, 1988; Henderson and Landesman, 1992; Lucas and Katz, 1994; Moll, 1988; Pease-Alvarez et al., 1991; Short, 1994; Slavin and Madden, 1995; Slavin and Yampolsky, 1992; Tharp, 1982; Thomas and Collier, 1997; Wong Fillmore et al., 1985). The most routinely cited of these techniques is cooperative learning. Although there are many variations to the cooperative learning model, the elements most frequently cited as distinguishing it from traditional, whole class instruction are:

- Heterogeneous groups of two to six students.

⁶⁰ Lucas and Katz (1994) is an exception. In their discussion of effective special alternative instructional programs for ELLs, the isolation of these programs was prominent. In one district, each program "was housed at a school site but operated as an individual educational unit, physically separated from the rest of the school ..." (Lucas and Katz, 1994, p. 546). In another district, the program was housed in a central location to which ELL students were bused and in which they spent half their school day.

- Lessons structured in such a manner that students depend on each other in a positive way for their learning.
- An explicit focus on interpersonal and small group skills.
- Teachers as consultants or facilitators of learning, as opposed to transmitters of the material.

In a review of studies done on cooperative learning, Slavin (1995) notes that it "is one of the most extensively evaluated of all instructional innovations" (p. 19). His analysis of 90 experimental and quasi-experimental studies concludes that cooperative learning has a positive effect on student achievement and race relations. Furthermore, the studies indicate the overall effects on "student self-esteem, peer support for achievement, internal locus of control, time on task, liking of class and classmates, cooperativeness, and other variables are positive and robust" (Slavin, 1995, p. 70). Other researchers have also suggested that, beyond the benefits listed by Slavin (1995), cooperative learning techniques can be effective in supporting second-language acquisition (especially in classrooms that incorporate native speakers) (Bejarano, 1987; Cohen, DeAvila, and Intiti, 1981, as cited in Kagan, 1986; Jacob, Rottenberg, Patrick, and Wheeler, 1996; Sharan, Bejarano, Kussell, and Peleg, 1984).

Customized Learning Environment

Studies have found that in schools and classrooms that effectively support the academic achievement of language-minority students, educational approaches are customized to meet the diverse needs of their students (Berman et al. 1995; Moll, 1988; Short, 1994; Tharp, 1982; Tikunoff, 1983; Wong Fillmore et al., 1985). Understood is that language-minority students are not a homogenous group and that there is no educational panacea for them. For instance, Berman et al. (1995) note that in the effective schools they studied:

All the language development programs were flexibly constructed to accommodate students with varying levels of fluency and, where appropriate, students from different language backgrounds. Rather than trying to fit all the LEP students into one mold, teachers could adjust curriculum, instruction, and the use of primary language to meet the varying needs of students. Such flexibility is necessary because of the diversity of students ... (Berman et al., 1995, no page number).

Similarly, Moll (1988) observes that although the effective teachers he studied held similar views about teaching, they nevertheless developed distinct instructional programs to accommodate the particular needs of their students.

Tikunoff (1983), Tharp (1982), and Wong Fillmore et al. (1985) conclude that this customization of educational approaches should also include efforts to make instruction compatible with a student's culture. This argument is consistent with the work of a number of researchers who assert that discontinuities between a student's home culture and that of his or her school can result in academic difficulties, and, conversely,

instructional approaches that are more consistent with a particular ethnic group's norms of social and linguistic interaction help support academic achievement through diminishing these discontinuities (e.g., Guild, 1998; Pease-Alvarez and Vasquez, 1994; Zanger, 1991). A commonly cited example of such an instructional approach is cooperative learning, which is believed to be more consistent with the social norms and learning styles of certain ethnic groups than is traditional, whole-class instruction (e.g., Tharp, 1982).^{61, 62}

Use of Native Languages

Several studies reviewed in this section note the advantage of incorporating a student's home language into his or her educational experiences (Berman et al., 1995; Lucas and Katz, 1994; Pease-Alvarez et al., 1991; Thomas and Collier, 1997; Tikunoff, 1983). For instance, Thomas and Collier (1997) found that of all the variables analyzed in their major study of programs for ELLs, first-language support "explains the most variance in student achievement and is the most powerful influence on [language-minority] students' long term academic success" (p. 64). Even Lucas and Katz (1994), in a study of nine exemplary programs that were ostensibly English-only, nevertheless found these programs to incorporate the use of native languages in a variety of ways. Such incorporation is believed not only to support student self-esteem (as discussed above), but to make academic content more accessible, allow for more effective interaction between students and their teachers, and provide greater access to students' prior knowledge (Lucas and Katz, 1994). Furthermore, the use of a student's home language is also believed to indirectly facilitate the development of English-language proficiency (see Chapter One).

Instructional Strategies That Enhance Understanding

A number of studies have found that effective teachers of ELLs utilize specially tailored strategies to enhance student understanding (Berman et al., 1995; Chamot et al., 1992; Dianda and Flaherty, 1995; Henderson and Landesman, 1992; Moll, 1988; Muniz-Swicegood, 1994; Rosebery et al., 1992; Short, 1994; Tharp, 1982; Thomas and Collier, 1997; Wong Fillmore et al., 1985). These strategies include a focus on hands-on, experiential learning; teaching students meta-cognitive strategies; and connecting the curriculum to a student's culture and experiences. Also, in addition to these generally applicable strategies, a number of strategies are cited that focus primarily on facilitating understanding when instruction is in English. These include the use of manipulatives, pictures, objects, and films related to the subject matter; providing demonstrations of academic tasks before students are asked to perform them; having a predictable daily

⁶¹ For an expanded discussion of how teachers can modify their classrooms to be more compatible with the cultures of their students, see Tikunoff (1983).

⁶² It is important to remember that what constitutes culturally compatible instructional approaches may vary significantly between different ethnic minority groups (Wong Fillmore et al., 1985). Furthermore, it should also be remembered that within a group the variations among individuals are as great as their commonalities (Guild, 1998). Informing instruction through an understanding of cultural differences, though valuable, should of course not lead to a stereotyping of the needs and abilities of individual students.

classroom schedule; and the modification of teacher speech in a manner appropriate to a student's current level of English proficiency.⁶³

Cognitively Complex, On-Grade-Level Instruction

Research has shown that the schooling of students from working-class families (a group that is inclusive of most language-minority students) is disproportionately focused on intellectually limited, low-level skills (e.g., Anyon, 1980, 1981; Goldenberg, 1984, 1990, as cited in Moll, 1988; Oakes, 1986). Furthermore, the work of Diaz, Moll, and Mehan (1986) and Moll (1986) has found that there is the additional tendency to reduce the curriculum's level of complexity even further in order to match ELLs' level of English proficiency. However, many of the studies reviewed in this section have found that supporting the academic achievement of language-minority students requires a reversal of these conditions (Berman et al., 1995; Goldenberg and Gallimore, 1991; Moll, 1988; Thomas and Collier, 1997; Wong Fillmore et al., 1985). The most significant of these is Thomas and Collier (1997), which found that for a program to succeed in ELLs reaching long-term academic achievement levels that are equal to the average achievement of native-English speakers, it must provide:

- Cognitively complex, on-grade-level instruction through students' first language for as long as possible (at least through Grade 5 or 6).
- Cognitively complex, on-grade-level instruction through English for part of the school day, utilizing content-based ESL or sheltered instruction methods.⁶⁴

It is important to note Thomas and Collier's assertion that when instruction is provided in English, content-based ESL and sheltered instruction should be employed. Content-based ESL is ESL instruction that is structured around academic content rather than general English-language skills. Sheltered instruction is subject matter instruction in English that is presented in a manner that makes it accessible to ELLs given their levels of English proficiency (e.g., teacher speech is modified and greater emphasis is placed on hands-on activities). Both methods are widely believed to facilitate the provision of cognitively complex, on-grade-level instruction to ELLs (e.g., Krashen, 1998; Thomas and Collier, 1997).⁶⁵

Of particular importance is the utilization of these methods when a school cannot provide an ELL with content instruction through his or her first language. Too often in these situations, ELLs are placed in mainstream classrooms for most of the day and only provided with special instruction in the form of traditionally taught ESL pull-out

⁶³ Met (1994) states that appropriate modification of teacher speech includes speaking more slowly, emphasizing key words or phrases; simplifying language by using more common vocabulary or simpler, high frequency grammatical structures; restating, repeating, and paraphrasing, since redundancy provides additional supports for meaning; providing definition through exemplification; the use of synonyms to link new vocabulary with known words; and the use of antonyms to provide counterexamples to meaning.

⁶⁴ See Appendix B for a detailed discussion of how to structure a program in order to most effectively provide ELLs with cognitively complex, on-grade-level instruction.

⁶⁵ Content-based ESL has also been shown to support second-language acquisition (Genesee, 1994b; Krashen, 1991). For an extended discussion of content-based ESL, see Burkart and Sheppard (1995).

sessions. Because of the linguistic barriers ELLs face in such programs, they are effectively denied full access to content instruction until high levels of English-language proficiency are achieved. This is particularly problematic because, as Cummins (1994) states:

Language learning is a process that takes time; ESL students may require five (or more) years to catch up with their native English-speaking peers in academic aspects of English. Clearly, ESL students' cognitive growth and their learning of subject matter content cannot be postponed until their English-language skills are developed to the level of their classmates (p. 56).

However, by modifying English-only programs so that content-based ESL and sheltered instruction are provided, the cognitive growth and content learning of ELLs can be supported while these students acquire a level of English proficiency that allows them to participate fully in mainstream classrooms (Krashen, 1998).

Balanced Curriculum

Several studies report the benefits of classroom instruction that incorporates both a skills-based approach to pedagogy and a more holistic, meaning-based approach (Dianda and Flaherty, 1995; Goldenberg and Gallimore, 1991; Pease-Alvarez et al., 1991; Slavin and Madden, 1995; Slavin and Yampolsky, 1992; Sharp, 1982).⁶⁶ The skills-based approach is characterized by the explicit teaching of discrete skills such as phonics, word recognition and specific comprehension skills. Researchers cite this approach as being beneficial for highly structured skill and knowledge domains such as mathematical computation, map reading, and explicit reading comprehension strategies (Goldenberg, 1991). The holistic approach, on the other hand, focuses on student engagement with meaningful material that is being taught for comprehension. This approach supports the acquisition of higher order conceptual and linguistic skills and is best suited for less structured skill and knowledge domains such as reading comprehension (Goldenberg, 1991).

Methods discussed in the literature for incorporating the holistic, meaning-based approach to instruction in the classroom include:

- **Word wall:** This method involves regularly posting words on a classroom wall, which can then be incorporated into various activities to support students' literacy development. The words can be selected from student writing, books that students are reading, or other sources related to student learning.
- **Language experience approach:** In this method, students dictate their own stories or experiences to the teacher. This text is then used as reading material for its author, and it is also sometimes used as reading material for other students in the class.

⁶⁶ Berman et al. (1995) and Moll (1988) are an exception. In these studies the successful academic achievement of language-minority students was correlated with an exclusive emphasis on holistic, meaning-based instruction.

- **Instructional conversations:** These are discussion-based lessons in which the teacher draws from students' prior knowledge, experiences, and home culture in order to guide extended, theme-focused conversations that promote analysis, reflection, and critical thinking.
- **Dialogue journals:** In this method, the teacher and student engage in an extended written conversation through regular journal entries. Students write as much as they choose on predominately self-selected topics. The teacher responds by making comments, offering observations and opinions, requesting and giving clarifications, asking questions, answering student questions, and introducing new topics. Types of dialogue journals include daily personal journals, literature response journals, content response journals, and learning logs.
- **Writer's workshop:** This method teaches writing through student composition of authentic texts. Workshops occur in regular and predictable blocks of time and include mini-lessons on the mechanics and craft of writing, as well as student generation of texts in a multistep process. This process includes drafting, conferencing and sharing, revising, redrafting, editing, and the "publishing" of the completed text.
- **Thematic units:** This method involves integrating the curriculum across a variety of subject areas. It often includes teachers deciding on the theme and skills to be developed, yet allowing students to select interesting topics to pursue while studying the broader theme.

Opportunities for Practice

ELLs' exposure to meaning-focused use of the English language, especially during interactions with native-speakers, is believed to be critical to the language acquisition process. It is not surprising, therefore, that several of the studies reviewed in this section explicitly note that effective schools and classrooms provide ELLs with ample opportunities to engage in communicative interaction using English (Berman et al., 1995; Garcia, 1988; Moll, 1988; Rosebery et al., 1992; Wong Fillmore et al., 1985). The provision of such opportunities is also implicit in many of the other studies, with the utilization by teachers of techniques such as cooperative learning, peer tutoring, instructional conversations, and dialogue journals being cited numerous times. These techniques are generally believed to provide significant exposure to meaning-focused use of English, and therefore to facilitate the language acquisition process.⁶⁷

⁶⁷ Studies have shown that cooperative learning supports the second-language acquisition process of students (Bejarano, 1987; Cohen, DeAvila, and Intiti, 1981, as cited in Kagan, 1986; Sharan et al., 1984). Studies have also provided indirect evidence that peer tutoring (Flanigan, 1991) and instructional conversations (Goldenberg and Patthey-Chavez, 1995) do so as well; when contrasted with traditional teacher-fronted, one-way instruction, these techniques were shown to be richer in the types of linguistic interaction believed to support language acquisition. Finally, theorists have argued that the use of dialogue journals is also a superior means of providing ELLs with exposure to the meaning-focused use of English (e.g., Kreeft Peyton, 1986, 1987).

Collaboration Between Home and School

A prominent theme among the studies reviewed in this section is the importance of school efforts to support student achievement through collaboration with students' families. For instance, a number of studies cite efforts on the part of schools and teachers to encourage parental involvement in their children's education (e.g., helping with homework, conferring with teachers, and participating in school governance) (Berman et al., 1995; Carter and Chatfield, 1986; Dianda and Flaherty, 1995; Garcia, 1988; Goldenberg and Gallimore, 1991; Pease-Alvarez et al., 1991; Slavin and Madden, 1995; Slavin and Yampolsky, 1992). The benefits of such parental involvement have been extensively documented throughout the broader educational literature, and include improved academic achievement, enhanced English-language skills, improved in-school behavior, increased cognitive growth and improved home-school relations among others (for reviews of the research on this subject see, for example, August and Hakuta, 1997, and Bermudez and Marquez, 1996).⁶⁸

Several studies also found that effective schools supported language-minority student achievement through helping the families of these students access needed social services (Berman et al., 1995; Carter and Chatfield, 1986; Dianda and Flaherty, 1995; Slavin and Madden, 1995; Slavin and Yampolsky, 1992). For instance, Slavin and Madden (1995) note that in the Success for All program they studied, family support staff provided assistance when there were indications that students were not working up to their full potential because of problems at home (such as not receiving adequate sleep or nutrition). In such cases, links with appropriate community service agencies were made to provide as much support as possible for parents and children. Similarly, Berman et al. (1995) found that the exemplary schools they studied delivered a range of integrated health and social services that reflected a vision of the school as an integral part of the surrounding community.

Effective Staff Development

Staff development is routinely cited as an important component of effective schools for language-minority students (Berman et al., 1995; Carter and Chatfield, 1986; Chamot et al., 1992; Garcia, 1988; Goldenberg and Sullivan, 1994; Moll, 1988; Pease-Alvarez et al., 1991; Slavin and Madden, 1995; Slavin and Yampolsky, 1992; Thomas and Collier, 1997). Unfortunately, these studies fail to provide substantial evidence as to what forms of staff development are most effective. However, other researchers who address this issue argue that teachers who work with language-minority students should receive professional development that includes a focus on:

⁶⁸ Researchers have noted that language-minority parents (especially recent immigrants) often face formidable social, cultural, linguistic, and economic barriers to involvement in school activities. For a discussion of these barriers as well as how schools can accommodate the needs of language-minority parents, see, for example, Bermudez and Marquez (1996), Coelho (1994), Finders and Lewis (1998), Miramontes, Nadeau, and Commins (1997) and Violand-Sanchez, Sutton, and Ware (1991).

- Building respect for students' cultural and linguistic backgrounds, as well as how to accommodate and build upon these in the school and classroom (Burkart and Sheppard, 1995; Collier, 1995; Uranga, 1995).
- Current theories on how children acquire a second language, and how learning content is affected when mediated through a second language (Burkart and Sheppard, 1995).
- How to use multiple, alternative, and authentic means of assessing student knowledge and learning (Collier, 1995; Uranga, 1995).⁶⁹
- Methods for eliciting student use of the target language, especially cooperative learning (Collier, 1995; Uranga, 1995; Leighton, Hightower, and Wrigley, 1995).
- Cultivating teachers' disposition toward, and competence in, critically reflecting on their own teaching (Leighton et al., 1995).
- Methods for making instruction comprehensible to students, such as connecting the curriculum to students' experiences and cultures, modifying teacher speech, and utilizing hands-on, experiential learning (Burkart and Sheppard, 1995; Collier, 1995; Leighton et al., 1995).
- Methods for infusing language development into content instruction (Leighton et al., 1995).

Furthermore, a number of researchers have stressed the importance of providing professional development focused on the needs of ELLs to not just bilingual or ESL staff, but to all mainstream teachers with ELLs in their classrooms (e.g., Burkart and Sheppard, 1995; Galbraith and Anstrom, 1995; Leighton et al., 1995). This is especially important because, as Burkart and Sheppard (1995) note, "The majority of practicing teachers have not been trained to deal with the linguistic and cultural diversity of today's classrooms" (no page number).

Conclusion

Efforts to support the reading development of ELLs should include a focus on these students' overall academic achievement. This is because reading development is influenced by factors such as student background knowledge and a student's linguistic and cognitive development (Braunger and Lewis, 1997; Snow et al., 1998; Thomas and Collier, 1997). Because of this fact, what is currently known about the relative effectiveness of various program models for the education of ELLs, as well as the school and classroom characteristics that promote the academic achievement of these students, was reviewed.

⁶⁹ Alternative assessment refers to any method of finding out what a student knows or can do that is intended to show growth and inform instruction and is an alternative to traditional forms of testing (i.e., multiple-choice tests) (O'Malley and Valdez Pierce, 1998). Authentic assessment refers to methods for evaluating student learning, achievement, motivation, and attitudes in regard to instructionally relevant classroom activities (O'Malley and Valdez Pierce, 1998). Examples include performance-based assessment, portfolios, and student self-assessment.

Research suggests that late-exit and two-way developmental bilingual education are superior to other types of special programs for ELLs (e.g., structured immersion) in supporting the academic achievement of these students. The findings of Thomas and Collier (1997) show that these program models succeed in producing average language-minority student achievement in English reading, English language arts, and other academic areas that reaches parity with that of native-English speakers, while program models such as early-exit bilingual education and structured immersion do not. However, as was noted above, this focus on broad program categories is overly simplistic.

Researchers have pointed out that programs are not unitary but a complex series of components, and that programs that share the same nominal label vary in terms of these underlying components and in terms of student achievement outcomes. Because of this, those studies that attempt to document school- and classroom-level factors that support the academic achievement of language-minority students have been examined. The studies suggest that these factors include the provision of a balanced curriculum, the use of effective grouping strategies, etc. Interestingly, the superiority of two-way developmental and late-exit bilingual education programs may be largely due to the fact that they usually incorporate a number of these school- and classroom-level factors more fully than do programs that conform to other models. For instance, two-way and late-exit programs generally utilize native languages more extensively and provide more cognitively complex, on-grade-level instruction.

Appendix A

Program Models for the Education of English-Language Learners in Washington State

Washington State operates the transitional bilingual instructional program for students in its public schools who have a native language other than English and who have English-language skill deficiencies which impair their learning in regular classrooms (Office of Superintendent of Public Instruction, 1998c). This program operates under the authority of RCW 28A.180.060 and is detailed in chapter 392-160 WAC (Office of Superintendent of Public Instruction, 1998c). The main objective of the program is student competence in English-language skills (Office of Superintendent of Public Instruction, 1998c). During the 1996-1997 school year, the program's services were provided by 181 school districts to 54,124 students enrolled in prekindergarten through twelfth grade; of these students, more than half spoke Spanish as a first language (Office of Superintendent of Public Instruction, 1998c).

Although the program is broadly termed the transitional bilingual instructional program, it nonetheless has several possible manifestations, not all of which conform to transitional bilingual education as defined within this document. According to the Office of Superintendent of Public Instruction (1998a, 1998c), there are four main program models provided under the transitional bilingual instructional program:

- **The Primary Language Development Program:** This program provides long-term dual-language instruction in both English and the first language. The goal of the program is to enable students to become academically and socially fluent in both languages.
- **The Academic Language Development Program:** Initially, this program provides intensive ESL instruction as well as first-language instruction to support academic skills and literacy. However, academic instruction in the first language is discontinued once the student reaches moderate English reading competency.
- **The Limited Assistance in the Primary Language Program:** This program provides intensive ESL instruction and minimal support in the first language. First-language support may include academic tutoring provided by noncertificated staff, translators, interpreters, etc.
- **The No Primary Language Support Program:** This program provides intensive ESL instruction, but offers no first-language support. However, other special instructional services may be provided which enable the student to participate in the regular, mainstream classroom.⁷⁰

⁷⁰ These definitions are a synthesis of those provided by the Office of Superintendent of Public Instruction (1998a, 1998c).

In the 1996-97 school year, these programs served 4.3 percent, 21.4 percent, 41.6 percent, and 27 percent, respectively, of the students receiving support through the transitional bilingual instructional program. In addition to these four program models, districts may also design alternative instruction programs to deliver services, though the Office of Superintendent of Public Instruction must approve them. This latter option served 5.7 percent of the students receiving support through the transitional bilingual instructional program in the 1996-97 school year.

There are also several classroom delivery models under which ELLs can receive services through the transitional bilingual instructional program. Whereas program models describe the instructional strategies employed, classroom delivery models describe the setting or circumstances in which services are delivered (Office of Superintendent of Public Instruction, 1998c). The five main classroom delivery models are:

- **Self-contained classroom:** In this model, students are scheduled to attend an all-bilingual classroom that offers instruction in English and English language arts that is appropriate to their levels of English competence and sometimes provides academic instruction in the first language. The reading and language arts instruction that is provided in these classrooms is parallel, not supplementary, to that offered in the regular classroom.
- **Center approach:** In this model, non-English speaking students are scheduled for a large portion of the day in a bilingual center offering intensive English-language development and, in some cases, instruction in the first language. Students return to the mainstream classroom only for those subjects not requiring significant English-language interaction.
- **In-classroom model:** In this model, students who have attained some English-language proficiency are provided, in the mainstream classroom, with ESL instruction by a specialized instructor. In some cases, students are also provided with academic instruction in the first language.
- **Pull-out method:** In this model, students are taken from the mainstream classroom in order to receive ESL instruction and, in some cases, academic instruction in the first language. Instruction is delivered in small groups or on an individual basis.
- **Tutoring:** In this model, students are provided with a bilingual tutor who assists individuals or small groups in completing class assignments or who provides limited assistance in ESL.⁷¹

In the 1996-97 school year, these classroom delivery models served 14 percent, 5 percent, 29.2 percent, 28.2 percent and 9.3 percent respectively of the students receiving support through the transitional bilingual instructional program (Office of Superintendent of Public Instruction, 1998a). In addition, 14.3 percent of the students were served using other unspecified methods of service delivery (Office of Superintendent of Public Instruction, 1998a).

⁷¹ These definitions are a synthesis of those provided by the Office of Superintendent of Public Instruction (1998a, 1998c).

Appendix B

Model of Program Development in Relation to Language of Instruction

This appendix provides a framework for the development of an effective educational program for English-language learners (ELLs) in terms of language of instruction.⁷² This framework is substantially based on the one endorsed by Krashen (1998) and Krashen and Biber (1988) because:

- It is consistent with Cummins' model of language development advanced in Chapter One.
- It is supported by the research on program effectiveness discussed in Chapter Three.
- It is flexible and can be tailored to suit the local context of an individual school.⁷³

It should be remembered, however, that effective practices in regard to language of instruction are just one consideration in the development of an educational program that meets the needs of a school's language-minority students. Researchers have identified a number of practices and attitudes that are characteristic of schools and classrooms that are successful in the education of these children (see Chapter Three). Hence, incorporation of the framework provided in this section should be seen as merely one step (albeit an important one) in the overall construction of an effective program.

The Ideal Case

Krashen (1998) and Krashen and Biber (1988) argue that successful programs for ELLs have the following four components:

- Comprehensible input in English that is provided directly in the form of content-based ESL and sheltered subject matter classes.
- Subject matter teaching done in the first language (this does not include the practice of providing instruction in English augmented with concurrent translation).⁷⁴
- Literacy development in the first language.
- Continuing development of first-language proficiency when possible.

⁷² For an expanded discussion of how to develop an instructional program for ELLs that maximizes resources and personnel, see Miramontes, Nadeau, and Cummins (1997).

⁷³ The framework presented in this appendix for the development of effective programs for ELLs is also similar to the one endorsed by the Multilingual Education Department of the Dallas Public Schools (Dehart and Martinez, 1998).

⁷⁴ Concurrent translation is a practice in which a teacher speaks in one language and then immediately translates what was said into a second language. The use of concurrent translation in instruction is criticized as failing to facilitate second-language acquisition, since children are not compelled to attend to what is being said in the language they are less fluent in (see, for example, Legaretta, 1979, and Wong Fillmore, 1985).

Table B:1 graphically depicts the ideal manifestation of such a program. Termed the "gradual exit plan" by Krashen (1998), this model:

Has three components and four stages. The stages, however, are very flexible. In the beginning stage, all children—limited English proficient and native speakers of English—are mixed for art, music, and physical education. This makes sense for two reasons: It avoids segregation, and much of the English the minority-language children will hear will be comprehensible, thanks to the pictures in art and movement in PE. Also at this stage, children are in high quality comprehensible input-based ESL classes and are taught all other subjects in the primary language.

The intermediate stage child is defined as the child who understands enough English to begin to learn some content through English. Sheltered subject matter instruction begins in those subjects that, at this level, do not demand a great deal of abstract use of language, such as math and science. Subjects such as social studies and language arts remain in the first language, as it is more difficult to make these subjects comprehensible to second language acquirers at this level.

At the advanced level, limited English proficient students join the mainstream, but not all at once: They begin with one or two subjects at a time, usually math and science. When this occurs, social studies and language arts can be taught as sheltered subject matter classes.

In the mainstream stage, students do all subjects in the mainstream and continue first language development in classes teaching language arts and social studies in the first language. These continuing first language classes are not all-day programs. Rather, they can take the place of (or supplement) foreign language study (Krashen, 1998, p. 200).

Table B:1

THE GRADUAL EXIT PLAN⁷⁵

Mainstream		Content-Based ESL/ Sheltered Instruction	First-Language Instruction
Beginning	Art, music, PE	ESL	All core subjects
Intermediate	Art, music, PE	ESL, math, science	Language arts, social studies
Advanced	Art, music, PE, math, science	ESL, social studies, language arts	Continuing L1 development
Mainstream	All subjects		Continuing L1 development

⁷⁵ This table is a replication of the one presented in Krashen (1996). 26

The Gradual Exit Plan's Grounding in Theory and Research

This model is consistent with Cummins' threshold hypothesis discussed in Chapter One; as children reach the linguistic threshold necessary to benefit from English instruction in a particular subject, they transition first to sheltered instruction in that subject, then to mainstream classes. This model is also supported by the research on program effectiveness summarized in Chapter Three. In its ideal manifestation, it conforms to the program identified by Thomas and Collier (1997) as "late-exit bilingual education, including ESL taught through academic content." As was discussed in Chapter Three, Thomas and Collier (1997) found that, of the six program types they studied, only the two-way developmental bilingual program succeeded in producing higher achievement among ELLs than the late-exit program. Significantly, however, this gradual exit plan could also easily be incorporated into a two-way developmental bilingual program model.⁷⁶

Modifications Consistent with Local Contexts

A strength of the model presented in this appendix is that it is flexible in regard to the local contexts of individual schools. Although the gradual exit plan, as presented above, is the ideal, its practical application may be limited due to school contextual factors. Specifically, its application may be limited in situations where the ability to provide first-language instruction is restricted due to constraints on resources (i.e., staff and materials) or there is not a large concentration of children who speak the same first language. In such situations, the gradual exit plan can be modified to provide the maximum benefit to ELLs given the local context.

However, before making such modifications, it should first be ensured that the linguistic resources of bilingual teachers are being utilized to their fullest potential. Krashen (1998) argues that one way of doing this is through team-teaching. Team-teaching allows those who speak the child's first language to teach in that language, while those who do not speak the child's first language provide instruction in the mainstream and sheltered/ESL sections of the model presented above.

If the reallocation of teachers' linguistic resources does not succeed in allowing for a full implementation of the ideal model, program effectiveness can still be maximized by incorporating, to the degree possible, the four key programmatic components listed above. This involves emulating the ideal model, with the exception that sheltered instruction is provided in the least linguistically demanding of the subjects that would otherwise be provided in the student's first language (i.e., math and science for the "beginning stage" child). Further, if no native-language instruction can be provided at all, sheltered instruction is provided in all subjects that would otherwise be provided in the first language. Although this kind of program "lacks the advantages of developing

⁷⁶ Research suggests that two-way developmental bilingual programs benefit both native-English speakers and ELLs (see Christian, 1994, and Zanger, 1991, for reviews of the research on two-way programs; see also Thomas and Collier, 1997). For an expanded discussion of the features of a two-way developmental bilingual program, see Christian (1994).

literacy in the first language and using the first language to supply subject matter knowledge," it at least has the advantage of being comprehensible all day long (Krashen, 1998, p. 201). Therefore, it is superior to a program of submersion augmented by ESL "pull-out," which results in exposure to incomprehensible input most of the day.

If even this modified plan is not possible due to the presence of only a few limited English proficient students in the school, there are still a number of things that can be done to maximize program effectiveness. According to Krashen (1998), these include:

- ESL pull-out, if provided, should be scheduled for times when more proficient English speakers are engaged with subject matter that requires the most abstract use of language and that will be the least comprehensible to ELLs (i.e., language arts and social studies).
- First-language development should be promoted by providing books in the student's first language and by encouraging the use of the first language in the student's home. Although the latter may seem an unusual suggestion, as Gandara (1997) notes, "Traditionally, Limited English-speaking parents have been admonished to give up the use of the native language in the home and help their children to transition to English by providing English language models" (no page number). Unfortunately however, research by Wong Fillmore (1991a, 1991b) has shown that such efforts to rapidly shift ELL children to the use of English can result in the loss of the first language and, subsequently, engender a breakdown in parent-child communication. This breakdown in communication can, in turn, have a number of seriously negative effects on parents' ability to raise their children.⁷⁷
- Instructional aides who speak a student's first language should be used to support the student's background knowledge and literacy in the first language. Krashen (1998) argues that these instructional aides are too often used in the less productive task of drilling ELLs in English spelling and vocabulary.

⁷⁷ The breakdown of parent-child communication can result in parents not being able to teach their children about ethical values, responsibility, morality, etc.; parents not being able to provide emotional and social support to their children; parents not being able to tell when their children are having trouble in school or are involved in potentially dangerous activities; and parents losing moral authority and control over their children (Gandara, 1997).

Appendix C

Reading-Related Programs That Influence the Reading Achievement of English-Language Learners

As part of the investigation of the research on second-language learners and learning to read in English in the public schools, published literature was examined for quantitative research on the degree to which widely used reading-related programs in Washington State's public schools are effective with English-language learners (ELLs). This search was limited to studies of program effectiveness involving elementary or middle school students and to programs in which instruction is provided in English. The programs were the Higher Order Thinking Skills (HOTS) and Reading Recovery special intervention programs, the Direct Instruction System for Teaching Arithmetic and Reading (DISTAR) instructional program, Open Court's basal reading program, the Success for All school restructuring program, the Reading Mastery reading program, and the Helping One Student To Succeed (HOSTS) structured mentoring program in language arts. Of these, quantitative research that directly addressed program effectiveness for ELLs could be found for only two: Success for All and Reading Recovery. This appendix provides brief descriptions of these programs and summarizes the research on their effectiveness with ELLs.

Reading Recovery

Reading Recovery is an early intervention program designed to reduce student reading failure. Originally developed by New Zealand psychologist Marie M. Clay, the program has been adapted for implementation in U.S. schools. The program targets those first grade students who constitute a school's lowest achievers in reading, and it provides them with temporary (12 to 20 weeks) one-on-one tutoring during daily 30-minute pull-out sessions. The goals of the program are (1) to bring these students to a reading level that is comparable to the level of the average first grade readers in the school or classroom and (2) to develop in them a self-improving system of reading and writing that allows for continued progress in the regular classroom.

The Reading Recovery program has three key components. One is the intensive, yearlong inservice program that Reading Recovery teachers are required to participate in. Another is the use of an observational survey that has been developed to help identify low-achieving students for program participation as well as to monitor their progress in the program. The third component is the highly structured framework within which tutoring sessions occur.

Regarding the latter, although instruction is adjusted to meet the needs of the individual child, Reading Recovery is nonetheless highly prescriptive in regard to how tutoring sessions are to be structured. After an initial ten-day period in which no new learning is

introduced (during which the teacher instead focuses on supporting the child in becoming fluent and flexible with what he or she already knows), each tutoring session includes:

- Engaging the student in the rereading of previously read books.
- Student independent reading of a book introduced during the previous lesson, during which the teacher records (and later analyzes) the student's reading behavior with a kind of shorthand called a "running record."
- Letter identification exercises, if necessary.
- Student writing and reading of his or her own sentences, during which the student's attention is called to hearing the sounds in words.
- Cutting up these written sentences into individual words or phrases for the student to reassemble.
- The introduction of a new book.
- The reading of the new book with teacher support.

Marie Clay concluded from her original research on Reading Recovery that it is "an effective programme for reducing the number of children with reading difficulties in New Zealand schools" (Clay, 1993, p. 96). However, the program evaluations she conducted have been criticized as being methodologically flawed (for a review of these critiques, see Center, Wheldall, Freeman, Outhred, and McNaught, 1995; see also Shanahan, 1987). Furthermore, the relevance of Clay's findings to the question of Reading Recovery's effectiveness in U.S. schools is limited due to differences in the program's implementation in New Zealand and the U.S. and due to differences in the educational contexts of these countries (Hiebert, 1994; Shanahan and Barr, 1995).

Nevertheless, studies conducted by the implementers of Reading Recovery in the U.S. have supported Clay's findings (e.g., DeFord, Pinnell, Lyons, and Place, 1990; Pinnell, Lyons, DeFord, Bryk, and Seltzer, 1994). These studies suggest that Reading Recovery, as implemented in the U.S., has substantial positive effects on student reading and writing ability by the end of the first grade and that a portion of these effects are maintained through the fourth grade. However, secondary analyses of these studies suggest that they may greatly overestimate the effectiveness of Reading Recovery (Hiebert, 1994; Shanahan and Barr, 1995; Wasik and Slavin, 1993), a significant issue given the high cost of the program (Hiebert, 1994; Hiebert, 1996; Rasinski, 1995).⁷⁸

Regarding the program's effectiveness with ELLs, program evaluations have been conducted of Reading Recovery's efficacy when provided to ELLs in the students' native language (Escamilla and Andrade, 1992; Kelly, Gomez-Valdez, Klein, and Neal, 1995). However, little research has been conducted on the program's effectiveness with ELLs when Reading Recovery tutoring is provided in English. Although Pinnell, Lyons, and Jones (1996) claim that of the 33,243 children who were successfully exited from the program in the U.S. in 1994, 9 percent were ELLs who received Reading Recovery in English, Kelly et al. (1995) is the only study that provides deaggregated data on the

⁷⁸ For a detailed overview of the studies conducted on Reading Recovery's effectiveness in the United States, see U.S. Department of Education (1997).

effectiveness of English Reading Recovery for ELLs. These researchers found that ELLs receiving Reading Recovery in English were successfully exited from the program at a comparable rate to native-English speaking students and also made comparable reading and writing gains. However, the effectiveness of Reading Recovery for these students in comparison to other forms of intervention is not addressed. A further shortcoming of Kelly et al. (1995) is that the study provides no discussion of how the program was modified (if at all) to fit the needs of ELLs. Although Reading Recovery tutoring is intended to be tailored to fit the needs of individual students, a discussion of what this entails for ELL students receiving Reading Recovery in English was not found in the scholarly literature.

Success for All

Success for All is a school restructuring program that emphasizes prevention and early intervention for students in kindergarten through third grade who are at risk of early reading failure. Developed by Robert Slavin and his colleagues at Johns Hopkins University, the program is an attempt to:

... use everything known about effective instruction for students at risk [in order] to direct all aspects of school and classroom organization toward the goal of preventing academic deficits from appearing in the first place, recognizing and intensively intervening with any deficits that do appear, and providing students with a rich and full curriculum to enable them to build on their firm foundation in basic skills. The commitment of Success for All is to do whatever it takes to see that every child makes it through third grade at or near grade level in reading and other basic skills, and then goes beyond this in the later grades (Slavin, Karweit, Wasik, Madden, and Dolan, 1994, p. 176).

The most salient aspects of the reading component of the program are:

- **Reading tutors:** Certified teachers work individually with those children having the most difficulty learning to read. This is done during daily 20-minute tutoring sessions. These sessions provide students with individually tailored instruction that is supportive of and closely coordinated with the regular reading curriculum.
- **Grouping:** Although homeroom classes are heterogeneous, students are regrouped according to reading level for 90-minute reading classes. The size of these classes is reduced through the utilization of tutors as reading teachers.
- **Frequent assessment:** Students are assessed at eight-week intervals to determine reading progress. This assessment is used to evaluate the needs of individual students in relation to tutoring and reading group assignment, as well as to identify students in need of other types of assistance to support their academic achievement (e.g., screening for vision or hearing problems).
- **Children's literature:** At every grade level, reading periods begin with teacher oral readings of children's literature. Students are engaged in discussions about the story in order to enhance their understanding of the story, their listening and speaking vocabulary, and their knowledge of story structure. Additionally, through mid-first

grade, children listen to, retell, and dramatize stories in order to develop language and comprehension skills.

- **Reading Roots:** Success for All's Reading Roots reading program is usually introduced in the second semester of kindergarten. The program utilizes mini-books with phonetically regular words and interesting stories for repeated student oral readings to partners and the teacher. Letters and letter sounds are introduced in a predetermined sequence and integrated into the context of words, sentences, and stories.
- **Reading Wings:** Reading Wings is the reading program employed when students attain the primer reading level (usually in the second semester of first grade). The district's basal series or tradebooks are used with cooperative learning activities that emphasize decoding practice, vocabulary building, reading comprehension skills, and story-related writing. Reading Wings also emphasizes student home readings of self-selected books; students share their home readings through presentations, summaries, puppet shows, and other formats.

Success for All also has a number of integral components that indirectly support student reading achievement:

- **Kindergarten and prekindergarten programs:** Whenever possible, Success for All schools provide half-day prekindergarten and whole-day kindergarten programs. These programs are intended to give children a needed foundation for success in elementary school by providing a curriculum that supports oral language development, phonemic awareness, and concepts of print.
- **Family support team:** The family support team, a group composed of various school staff, has two primary functions. The first is to increase parents' involvement with the school and their children's learning. The second is to help families access needed social services when children have health or home problems that interfere with their academic performance (e.g., needing glasses or not receiving adequate sleep or nutrition).
- **Program facilitator:** Each school has a program facilitator who works to oversee the operation of the Success for All model. Among other duties, the facilitator helps plan the program, assists teachers having difficulties, oversees the eight-week assessments, and coordinates the efforts of the family support team with those of the instructional staff.
- **Teacher training:** Success for All emphasizes long-term professional development that includes both inservice focused on the implementation of the reading program and the sharing of knowledge between teachers through professional collaboration.

Slavin and his associates have extensively evaluated Success for All's effectiveness. Utilizing quasi-experimental designs, these researchers have found Success for All to have significant, positive effects on student reading outcomes through the fifth grade (Slavin, Madden, Dolan, and Wasik, 1996). Furthermore, these positive effects are sustained as students exit Success for All schools and enter middle school. A comparison of treatment- and control-group cohorts shows the former to maintain higher reading outcomes through the sixth and seventh grades (Slavin et al., 1996).

An independent evaluation of Success for All conducted by Smith, Ross, and Casey (1996) also found the program to have positive effects. The purpose of the study was to conduct an independent examination of Success for All's effectiveness that was "separate from the program's developers and from the school district in which it was first implemented" (Smith et al., 1996, p. 329). Although the study's findings regarding the benefits of Success for All were not as strong and consistent as those found by the program's designers, the study nonetheless found the program to have generally positive effects on student reading outcomes.

Slavin et al. (1996), Slavin and Yampolsky (1992), and Dianda and Flaherty (1995) have also found Success for All to have positive effects on the English reading outcomes of ELLs in English-only programs. To meet the needs of these students, Success for All was modified in two primary ways:

- A cross-age tutoring program was implemented in which older, bilingual students read to and with kindergarten students who spoke the same first language as the tutor.
- ESL instruction was focused on supporting student success in the regular reading program. ESL teachers utilized the materials and techniques of the regular reading program to help students with specific difficulties.

Although the researchers acknowledge that Success for All is not a substitute for quality bilingual education, their findings demonstrate that when the program is modified in these ways, the benefits are even more significant than those found with native-English speakers.

Glossary

Additive bilingualism: Developing a learner's proficiency in a second language with no pressure to replace or reduce the importance of the first language.

Affective filter: A filter governing how much input is received by the mechanism that processes language. The lower the filter the more open a student will be to acquiring new language (Dulay and Burt, 1977).

Age of arrival: The age at which a language-minority student was first enrolled into a formal educational program in the United States.

Alphabetic principle: The idea that written spellings systematically represent spoken words.

Attitude: An individual's reaction toward something based on that individual's beliefs or opinions.

Basic interpersonal communication skills: The aspects of language proficiency strongly associated with basic fluency in face-to-face interaction.

Beaders: Second-language learners who learn words incrementally and embrace a gradual process of language learning. These learners do not produce language until they understand the meaning of individual words. Initially, they will identify objects and learn nouns before learning verbs. For these learners, complete comprehension of a word is attained before it becomes part of their vocabulary (Ventriglia, 1982).

Beading: A second-language learning style characterized by the incremental learning of words (Ventriglia, 1982).

BICS: See "basic interpersonal communication skills."

Bilingual education: A term that is broadly inclusive of any educational program in which two languages are used for instruction.

Braiders: Second-language learners who easily produce sentences in the early stages of language learning. For these learners, oral production learned through interaction with native speakers is of greater importance than the need to comprehend the meaning of individual words. These learners are eager to try out newly acquired language skills (Ventriglia, 1982).

Braiding: A second-language learning style characterized by the early production of sentences (Ventriglia, 1982).

CALP: See "cognitive academic language proficiency."

Cognitive academic language proficiency: The aspects of language strongly associated with literacy and academic achievement.

Comprehensible input: The amount of new language, either written or heard, that a learner is exposed to and understands.

Concurrent translation: A method of bilingual instruction in which students are provided with a sentence-by-sentence translation of lessons from English into the students' native language.

Content-based ESL: A form of ESL that provides students with instruction that is structured around academic content rather than general English-language skills.

Cooperation versus individualism: A learning style typology that categorizes students according to whether they work best collaboratively or do best in more competitive settings (Scarcella, 1990).

Creative construction: The ability of children to extract the grammar of a language from a string of unfamiliar words and produce structures that they have not been taught.

Crisscrossers: Second-language learners who are spontaneous, adaptable, and creative. They have a positive attitude toward both the first and second languages and are comfortable navigating back and forth between the two. These learners embrace a bicultural identity (Ventriglia, 1982).

Crisscrossing: The motivational style of second-language learners who identify with both the first and second cultures (Ventriglia, 1982).

Critical period: A theory of first-language acquisition according to which the human brain, during a period extending from birth to the onset of puberty, shows the plasticity which allows the child to acquire his or her first language.

Crossing over: The motivational style of second-language learners who identify with the second culture (Ventriglia, 1982).

Crossovers: Flexible and independent second-language learners who are willing to take chances. These learners view second language identification as a positive way to adapt to the school setting. They may temporarily move closer to their English-speaking peers, embracing this new identity (Ventriglia, 1982).

Crystallizers: Cautious second-language learners who display a passive attitude toward second-language learning. They are listeners, and long periods of silence are not unusual for them. These learners will verbalize only when they have perfected their comprehension. They initially reject the second language and do not interact socially with English speakers or identify with them (Ventriglia, 1982).

Crystallizing: The motivational style of second-language learners who maintain their identity with their first-language culture (Ventriglia, 1982).

Decoding: The aspect of the reading process that involves "sounding out" a printed sequence of letters based on knowledge of letter-sound correspondences.

Early-exit bilingual education: A program model in which, initially, half the day's instruction is provided through English and half through students' native language. This is followed by a gradual transition to all-English instruction that is completed in approximately two to three years. This program model is alternately termed transitional bilingual education.

ELL: See "English-language learner."

English-as-a-second language: A method for teaching English to speakers of other languages in which English is the medium of instruction.

English-language learner: A student in the United States who is learning English as his or her second language.

ESL: See "English-as-a-second language."

ESL pull-out: A program model in which English-language learners attend mainstream classes, but are "pulled out" for ESL sessions designed to enhance English acquisition. Traditionally, these sessions have focused on grammar, vocabulary, and communication rather than academic content areas.

Field sensitivity/field independence: A learning style typology that categorizes learners as field-sensitive or field-independent, depending on how their perceptions are affected by the surrounding environment. Field-sensitive learners enjoy working with others to achieve a common goal and most often look to the teacher for guidance and demonstration. Field-independent learners enjoy working independently, like to compete, and ask for teacher assistance only in relation to the current task (Scarcella, 1990).

First language: The language a normal child acquires in the first few years of life. Alternately termed native language.

Global/analytic: A learning style typology that categorizes students according to which hemisphere of the brain is most utilized in language learning. Global thinking takes place in the right hemisphere, and global learners initially prefer an overall picture. Analytic thinking takes place in the left hemisphere, and analytic learners are fact oriented and learn tasks in a step-by-step fashion (Scarcella, 1990).

Home language: See "first language."

IL: See "interlanguage."

Immersion bilingual education: A program model in which academic instruction is provided through both the first and second languages for Grades K-12. Originally developed for language-majority students in Canada, it is used as one model for two-way bilingual education in the United States.

Instrumental orientation: Reasons for learning a second language that have a pragmatic focus such as obtaining employment.

Integrative orientation: Reasons for learning a second language that reflect an interest in forming a closer liaison with the target-language community.

Interlanguage: The developing, or transitional, second-language proficiency of a second-language learner.

L1: See "first language."

L2: See "second language."

Language-minority students: Children in Grades K-12 from homes where a language other than English is spoken.

Late-exit bilingual education: A program model in which half the day's instruction is provided through students' first language and half through a second language during Grades K-6. Ideally, this type of program was planned for Grades K-12, but has rarely been implemented beyond the elementary school level in the United States. The goal of this program model is bilingualism. This program model is alternately termed maintenance bilingual education.

Learning styles: Patterns of thinking and of interacting that affect a student's perceptions, memory, and reasoning.

LEP: See "limited English proficient students."

Limited English proficient students: Language-minority students who have difficulties in speaking, comprehending, reading, or writing English that affect their school performance.

Maintenance bilingual education: See "Late-exit bilingual education."

Metacognition: Thoughts about thinking (cognition); for example, thinking about how to understand a passage.

Metalinguistic: Language or thoughts about language.

Miscue analysis: A detailed recording of errors or inaccurate attempts during reading.

Morphology: The study of the structure and form of words in language or a language, including inflection, derivation, and the formation of compounds.

Motivation: The degree to which an individual strives to do something because he or she desires to and because of the pleasure and fulfillment derived from the activity.

Native language: See "first language."

NCE: See "normal curve equivalent."

Normal curve equivalent: A unit of measurement used on norm-referenced standardized tests.

Orchestrating: A second-language learning style characterized by incremental acquisition (Ventriglia, 1982).

Orchestrators: Second-language learners who initially process language on a phonological basis and place the greatest importance on listening comprehension. These learners begin with sounds and gradually make connections between these sounds and the formation of syllables, words, phrases, and sentences (Ventriglia, 1982).

Orientations: Reasons for learning a second language that may be classified as integrative (see "integrative orientation") or instrumental (see "instrumental orientation").

Orthography: A method of representing spoken language by letters and diacritics (i.e., spelling).

Performance-based assessment: Assessment that requires a student to construct an extended response, create a product, or perform a demonstration.

Phonemes: The speech phonological units that make a difference to meaning. Thus, the spoken word *rope* is comprised of three phonemes: /r/, /o/, and /p/. It differs by only one phoneme from each of the spoken words *soap*, *rode*, and *rip*.

Phonemic awareness: The insight that every spoken word can be conceived as a sequence of phonemes. This awareness is key to a child's understanding of the logic of the alphabetic principle.

Phonics: Instructional practices that emphasize how spellings are related to speech sounds in systematic ways.

Phonological awareness: A more inclusive term than phonemic awareness, this refers to the general ability to attend to the sounds of language as distinct from meaning. Phonemic awareness generally develops through other, less subtle levels of phonological awareness.

Phonology: The study of speech structure in language (or a particular language) that includes both the patterns of basic speech units (phonemes) and the tacit rules of pronunciation.

Primary language: The language an individual is most fluent in. This is usually, though not always, an individual's first language.

Second language: A language acquired or learned simultaneously with, or after, an individual's acquisition of a first language.

Second-language acquisition: The subconscious process that is similar, if not identical, to the process by which children develop language ability in their first language.

Second-language learning: The process by which a conscious knowledge of a second language is developed. This conscious knowledge includes knowing the rules of the language, being aware of them, and being able to talk about them.

Sensory modality strength: A learning style typology that categorizes learners by the sensory input they utilize most for information. Learners are categorized as visual, meaning they remember best by seeing or reading; auditory, meaning they remember best by hearing; or tactile-kinesthetic, meaning they remember best by writing or using their hands in a manipulative way (Scarcella, 1990).

Sheltered instruction: Subject matter instruction provided to English-language learners in English, modified so that it is accessible to them at their levels of English proficiency. This modification includes teachers using simplified speech, repetition, visual aids, contextual clues, etc.

Structured immersion: A program model in which all students in the program are English-language learners and in which students are usually (though not always) from different language backgrounds. Instruction is provided in English, with an attempt made to adjust the level of English so that the subject matter is comprehensible. Typically there is no native-language support.

Submersion: English-only instruction in which students with limited-English proficiency are placed in mainstream classes with English-speaking students and no language assistance programs are provided.

Subtractive bilingualism: The replacement of a learner's first-language skills by second-language skills.

Syllable: A unit of spoken language that can be spoken. In English, a syllable can consist of a vowel sound alone or a vowel sound with one or more consonant sounds preceding and following.

Target language: The language that a learner is trying to acquire or learn.

TL: See "target language."

Transitional bilingual education: See "early-exit bilingual education."

Two-way developmental bilingual education: A program model in which language-majority and language-minority students are schooled together in the same bilingual class. The goal of this model is to develop proficiency in both languages for both groups of students. Like late-exit bilingual education, this model usually involves students for several more years than the early-exit model.

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